



SECTION 01

ACTIVE COMPONENTS & VALVES



01

SECTION CONTENTS

→ Semiconductors	2
↓ Transistors	3
↓ IC's	12
→ Amplifier Module	26
→ Tools & Service Aids	26
→ Cross-Reference Data	28
→ PCB & Bread Boards	28
→ Insulation Washers & Hardware	29
→ IC Sockets	30
→ Regulators	30
→ Diodes Zener	31
→ Diodes Rectifiers	31
→ Triacs	32
→ Diodes	32
→ Optocouplers	33
→ Solid State Relays	33
→ LEDs and Photo-Optics	34
→ Optocouplers	34
→ Valve Tubes	36
↓ Rectifiers	38
↓ Valve Cross-Reference	39
↓ Valve Wiring	39
↓ Valve Components	39
↓ Valve Sockets	40
↓ Valve Transformers	40
↓ Potentiometers	41
↓ Classic knobs	42
↓ Amplifier Switches	42



→ Semiconductors

↓ Semiconductor Information

Semiconductor Information

UNDERSTANDING TRANSISTORS

All transistors registered with the Electronic Industries Association of Japan (EIAJ) are assigned an "S" number. The number consists of 5 elements,

ELEMENT 1

This number indicates the number of active internal or external connections minus one.

ELEMENT 2

Originally indicated that this device was registered with EIAJ, although now it is not the case.

ELEMENT 3

Polarity and applications.

- A PNP High Frequency
- B PNP Low Frequency
- C NPN High Frequency
- D NPN Low Frequency
- J P Channel F E T
- K N Channel F E T

ELEMENT 4

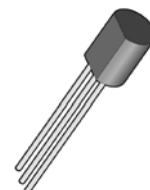
Serial number, in order of registration.

ELEMENT 5

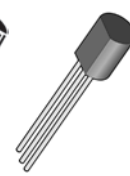
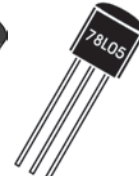
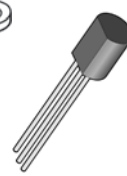
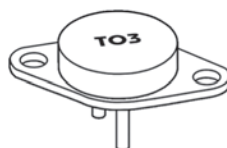
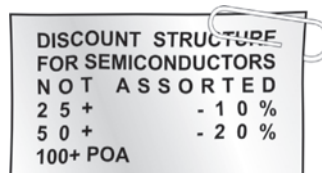
Suffixes indicate improvements and their sequence.

- A = First improvement
- B = Second improvement, etc

NOTE: An improved version will replace an unimproved type in all cases, but an unimproved version will not always replace an improved type.



TRANSISTOR	2	S	C	1413	A
ELEMENT	1	2	3	4	5



NON JAPANESE TRANSISTORS

Many manufacturers in Korea, Taiwan, etc. have adopted similar numbers to the Japanese and change the prefix eg KSC945. To make things more confusing, the KS is left off the device therefore C945 is the only marking on the transistor. In most cases the specs are similar but pin outs are not. Please check circuit prior to replacing transistor, the same number does not always mean that pin outs are the same.

TRANSISTOR SUBSTITUTIONS

Wagner Electronics reserves the right to supply a substitution transistor where the original is not available or is out of stock. A transistor substitution manual is available which lists possible substitutions. The comparison is on similar specs only. Therefore this should be read in conjunction with the Transistor Manual to ensure that cases and pin-outs are the same and that the transistor with the best specs is chosen. See section 2 for a comprehensive list of all TECHNICAL MANUALS AVAILABLE.

INTEGRATED CIRCUITS SUBSTITUTES

Generally speaking, integrated circuits are difficult to substitute. In cases where there are substitutes that we are aware of and stock, both types will be listed and the same type will be supplied in both cases. Check the invoice for info if you receive a chip not identical to the one you ordered. If you discover a successful substitution, please let us know including all relevant details. Thank you.

Improvements:

JAPANESE - An improved type will replace the original, eg. UPC1185H2 will replace UPC1185.

NON-JAPANESE - No set guide lines.

PLEASE NOTE

STOCK AVAILABILITY

The transistors, IC's, FET's, etc.. listed are what we have available at the time of preparation for this catalogue. It is possible that by the time you receive this listing some items may no longer be available. Manufacturers tend to discontinue goods without prior warning.

PRICE CHANGES

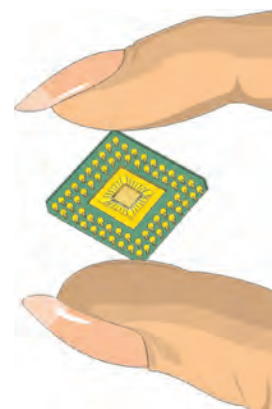
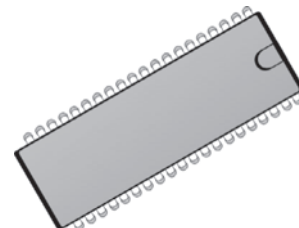
Once an item has been discontinued or there is a temporary shortage we must purchase from whoever has stock on the world market. Supply and demand will usually apply to these situations. We will continue to supply discontinued parts for as long as we are able to obtain them. The price may increase, but in most cases the repair will still be viable.

SEMICONDUCTOR WARRANTY

Faults not correctly diagnosed or faults in other parts of the circuitry may result in a newly fitted device being damaged. Manufacturers stand by their quality control testing and DO NOT accept warranty claims on semiconductor devices.

ITEMS NOT LISTED

If you require an item not listed please let us know. Maybe we have added it to our range since this publication or alternatively we can make enquires with our suppliers. If the part is available we will acquire it and add it to our range. Our extensive spare parts listing has come about because many of you have taken the time to inform us which parts you would like us to stock. When you contact us about items not listed, please supply us with as much information as you have available about the part. This will assist us in sourcing the part. Thank You.





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2SB

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01 SEMICONDUCTORS

01 SEMICONDUCTORS/VALVES/MISC

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2SD1207	2SD1577	2SD1985	2SJ122
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2SK

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2SK4097LS

3SK

Code
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3SK45
3SK74

11N

Code
11N60C3

AD

Code
AD162

AF

Code
AF279

BC

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BC107C
BC108
BC109B
BC140
BC141
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BC160
BC161
BC177
BC177C
BC179
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BC559C
BC560C
BC635
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BC637
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BC640
BC817-25.SMD
BC846B.SMD
BC847B.SMD
BC848.SMD
BC858.SMD

BCY

Code
BCY59
BCY79

BD

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BD135
BD136
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BD139
BD140
BD175



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BDV66AF.INSULATED
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BDW93C
BDW94C

BDX

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BDX34C
BDX53C
BDX54C
BDX54F
BDX64A
BDX65A
BDX66A
BDX66C
BDX67C

BF

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BF324
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BF470
BF472
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BF819
BF859A
BF869
BF870
BF871
BF872
BF960
BF961

BFQ

Code
BFQ162
BFQ225
BFQ232A
BFQ235A
BFQ252A
BFQ262

BFR

Code
BFR90A
BFR91A

BFT

Code
BFT66

BFW

Code
BFW16A

BFY

Code
BFY50
BFY51
BFY52
BFY90

BS

Code
BS170
BS250

BSS

Code
BSS38

BSX

Code
BSX20

BU

Code
BU126
BU205
BU208A
BU208D
BU326A
BU406
BU406D
BU407
BU407D
BU408
BU408D
BU415B
BU426A
BU426AF.INSULATED
BU505
BU508A
BU508AF.INSULATED
BU508D
BU508DF.INSULATED
BU508DW
BU526
BU606
BU608
BU626
BU705
BU806
BU807
BU808DFI
BU826
BU903
BU908
BU941.TO3
BU1508DX
BU2507AX
BU2508A
BU2508AF.INSULATED
BU2508AX
BU2508D
BU2508DF.INSULATED
BU2508DX
BU2515DX
BU2520A
BU2520AF
BU2520AX
BU2520DF
BU2520DX
BU2522AF
BU2522AX
BU2525A
BU2525AF
BU2525AX
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BU2527A
BU2527AF
BU2527AX
BU2527DF
BU2527DX
BU2532AL
BU2532D
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BU2722AF.INSULATED

BU2727AF
BU4507AX
BU4508DX
BU4522AX
BU4525AX

BUH

Code
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BUH415DI
BUH515
BUH515D
BUH516
BUH517
BUH713
BUH715
BUH1015
BUH1015HI
BUH1215

BUK

Code
BUK444-500B
BUK444-600B
BUK444-800B
BUK445-600B
BUK446-800
BUK453-50A
BUK455-500A
BUK455-600B
BUK456-60A
BUK456-800B
BUK456-1000B
BUK555-600B

BUL

Code
BUL38D
BUL310F1

BUT

Code
BUT11
BUT11A
BUT11AF
BUT11APX
BUT11AX
BUT11F
BUT12A
BUT12AF
BUT18AF
BUT56A

BUV

Code
BUV27H
BUV48A
BUV48B
BUV48C
BUV48CFI
BUV48FI
BUV90

BUW

Code
BUW11A
BUW12A
BUW13A
BUW13AF
BUW84
BUW85



BUX

Code
BUX10
BUX48
BUX48A
BUX67C
BUX80
BUX81
BUX84
BUX85
BUX86
BUX98C

BUY

Code
BUY69A

BUZ

Code
BUZ11A
BUZ31
BUZ41A
BUZ71A
BUZ73
BUZ80A
BUZ90
BUZ90A
BUZ90AF
BUZ91A
BUZ102AL
BUZ905
BUZ906

CCS

Code
CCS5417
CCS5609
CCS5610
CCS8050
CCS8550
CCS9011
CCS9012
CCS9013
CCS9014C
CCS9015
CCS9016
CCS9018

CS

Code
CS7031

DTA

Code
DTA114EA
DTA114ES
DTA114TK.SMD
DTA114TS
DTA114YK.SMD
DTA124EF
DTA124ES
DTA124ESA
DTA124EU.SMD
DTA143TS
DTA144EA

DTB

Code
DTB114ES

DTC

Code
DTC114ES
DTC114YF
DTC114YK.SMD

DTC124ES
DTC143EA
DTC143ES
DTC143TS
DTC143XS
DTC144ES
DTC144EU.SMD
DTC144WU.SMD

DTD

Code
DTD114TS
DTD123YS

FDA

Code
FDA18N50

FJAF

Code
FJAF6810A

FJP

Code
FJP5027R
FJP13009-2

FK

Code
FK20KM-5

FQA

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FQA18N50V2

FQP

Code
FQP5N60C

FQPF

Code
FQPF6N60
FQPF6N60C
FQPF7N80C.INSULATE
FQPF9N25C
FQPF9N50C
FQPF20N60.INSULATE

FS

Code
FS3KM18A
FS4KM-12A
FS5KM-10A
FS10KM-10A
FS10SM18A

GT

Code
GT30J322
GT60N321

IRF

Code
IRF1BC30G
IRF530N
IRF540
IRF614
IRF620
IRF630
IRF634
IRF640
IRF644
IRF730
IRF730A
IRF740A

IRF740B
IRF822
IRF830
IRF830B
IRF840
IRF1404
IRF3205
IRF3710
IRF9520N
IRF9530
IRF9540N
IRF9610
IRF9620
IRF9630
IRF9640

IRFBC

Code
IRFBC30
IRFBC40

IRFD

Code
IRFD110

IRFIB

Code
IRFIB7N50A

IRFP

Code
IRFP064N
IRFP140N
IRFP240
IRFP240A
IRFP264N
IRFP350
IRFP450
IRFP450A
IRFP460
IRFP9140N
IRFP9240

IRFPC

Code
IRFPC40
IRFPC50
IRFPC60

IRFS

Code
IRFS630A
IRFS640
IRFS9630

IRFU

Code
IRFU9024N

IRFZ

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IRFZ20
IRFZ24N
IRFZ34
IRFZ40
IRFZ44N
IRFZ48
IRFZ48N
IRFZ48S

IRLU

Code
IRLU024N

IXGR

Code
IXGR60N60C2

J

Code
J6810
J6810D
J6920
J6920A

KRA

Code
KRA103M

KSC

Code
KSC2330
KSC2331.SC-51
KSC5027.TO220.CASE
KSC5030F
KSC5039F
KSC5386

KSD

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KSD998
KSD5071
KSD5075ST
KSD5076
KSD5702
KSD5703

KSR

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KSR1001
KSR1002
KSR1003
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KSR1007
KSR1008
KSR2001
KSR2002
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KSR2004
KSR2007
KSR2202

KTA

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KTA1024
KTA1273
KTA1275

KTC

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KTC4419

KTD

Code
KTD1414

MD

Code
MD2009DFX

MJ

Code
MJ802
MJ1000
MJ2500
MJ2955
MJ3001
MJ4031
MJ4034



MJ4035
MJ4502
MJ11015
MJ11016
MJ11032
MJ15002
MJ15003
MJ15004
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MJ15025

MJE

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MJE172
MJE340
MJE350
MJE2901
MJE2955T
MJE3055T
MJE3439
MJE12007
MJE13003
MJE13005
MJE13006
MJE13007
MJE13009
MJE15030
MJE15031
MJE15032
MJE15033
MJE15034G
MJE15035G

MJL

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MJL4281A
MJL4302A
MJL21193
MJL21194

MJW

Code
MJW16212

MP

Code
MP1423DN.SMD
MP1620

MPS

Code
MPS6595

MPSA

Code
MPSA06
MPSA12
MPSA42=KSP42
MPSA43
MPSA56
MPSA92

MPSU

Code
MPSU51

MRF

Code
MRF238
MRF454

MTP

Code
MTP3N60F1
MTP6N90F1
MTP20N60

MTW

Code
MTW8N60E
MTW8NB80

NA

Code
NA31

ON

Code
ON4959

P

Code
P3NC60FP
P4NC60FP
P5NB60FP
P6N60
P7N60B
P7NB60FP
P9NB60FP
P16NE06

RJK

Code
RJK5020

S

Code
S2000A
S2000AF.INSULATED
S2055AF.INSULATED
S2055N
S2530A
S3786L

SGSF

Code
SGSF344

SPP

Code
SPP11N60C(3)
SPP20N60C3

SSH

Code
SSH6N80
SSH11N90

SSP

Code
SSP2N60B
SSP3NC60FP
SSP6N60
SSP7N60B
SSP7N80.METAL.BACK
SSP9NB60FP
SSP10N60A
SSP10N60B
SSP10NK80ZFP
SSP20N60S5

SSS

Code
SSS4N60A
SSS20N60.INSULATED

ST

Code
ST1802HI
ST1803DHI
ST2009DHI
ST2310DHI
ST2310HI

STH

Code
STH8NA60FI
STH8NA80FI
STH12N60FI
STH16NA40F1

STP

Code
STP3N90
STP3NB60
STP3NB60FP
STP3NB90FP
STP4NA40FI
STP4NA60FI
STP5NB40FP
STP5NB60FP
STP6NA60F1
STP6NA80FI
STP6NB80FP
STP6NC60FP
STP6NK90ZFP
STP7N80
STP7NB60FP
STP7NC80ZFP
STP8NK80ZFP
STP9NC60FP
STP9NK50Z
STP9NK60Z
STP9NK60ZFP
STP10NK60ZFP
STP10NK80Z
STP10NK80ZFP
STP12NB30FP
STP13NK60Z
STP14NK50ZFP
STP16NE06.METAL.BA
STP16NE06FP.INSUL.
STP20N06-INS
STP60N06

STW

Code
STW7NB80
STW8NC90Z
STW11NB80
STW13NB60
STW26NM60

TIP

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TIP29C
TIP31A
TIP31C
TIP32A
TIP32C
TIP33C
TIP34C
TIP35C
TIP36C
TIP41
TIP41A
TIP41C
TIP42C
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TIP50
TIP54
TIP101

TIP102
TIP105
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TIP142
TIP145
TIP146
TIP147
TIP2955
TIP3055

TOP

Code
TOP201YAI
TOP202YAI
TOP203YAI
TOP204YAI
TOP209P
TOP210PF1
TOP214AYI
TOP223Y
TOP224Y
TOP225YN
TOP227Y
TOP234Y
TOP243PN
TOP245PN.(DIL)
TOP245Y
TOP246Y
TOP247Y
TOP248Y
TOP249Y

TT

Code
TT2140
TT2142
TT2170
TT2190

UN

Code
UN1111
UN1112
UN1212

W

Code
W12NA60



→ Semiconductors

↓ IC's

IC LISTING INTRO

See List below for our current IC listing.
 Note: This list is continually being updated!
 Please contact us if you can not find your
 required IC.



1L

Code
1L0380R-4PIN

1M

Code
1M0365R-4PIN
1M0380R
1M0565R
1M0680R
1M0880

2S

Code
2S0680
2S0880-5PIN

3S

Code
3S0680RF.5PIN
3S1265R-5PIN

5H

Code
5H0165R-4PIN

5L

Code
5L0165R-8PIN
5L0265R-4PIN
5L0365R-4PIN
5L0365R-8PIN
5L0380R-4PIN
5L0380R-8PIN

5M

Code
5M02659RN-8PIN
5M0265R
5M0365R-4PIN
5M0365R-8PIN
5M0380R-4PIN

5Q

Code
5Q0565RT-5PIN
5Q0765RT-5PIN
5Q1265RF-5PIN
5Q1265RT-5PIN
5Q1565RF-5PIN

5S

Code
5S1265R

14DN

Code
14DN348E
14DN363

24C

Code
24C01
24C01A
24C01P
24C02
24C02P
24C08A
24C16WP
24C256

27C

Code
27C256-12
27C512-10

64

Code
6458D
6458S

74

Code
7404
7405
7406
7407
7425
7438

74HC

Code
74HC00
74HC02P
74HC04
74HC10N
74HC14P
74HC74N
74HC85P
74HC86AP
74HC123AN
74HC139P
74HC193P
74HC374P
74HC573P
74HC595
74HC4066P

74HCT

Code
74HCT04E

74LS

Code
74LS00
74LS01P
74LS02
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74LS10

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74LS541N

74S

Code
74S00
74S04
74S08
74S11
74S32
74S64
74S74
74S112
74S138

85C

Code
85C72/P

93C

Code
93C46CB3

626A

Code
626A2205KWMCC

4000 CMOS IC

Code
4001
4002
4006
4008
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4010
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4585
40097
40106

A

Code
A1019.SMD
A1034

ADXT

Code
ADXT64
ADXTPLUS

AH

Code
AH1202

**AM****Code**

AM26LS31PC
AM26LS32PC
AM5868S.SMD

AN**Code**

AN80T05
AN115
AN214Q
AN217
AN236
AN240P
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AN362
AN608
AN610P
AN612
AN1358
AN3215K
AN3311K
AN3312
AN3313
AN3320K
AN3331K
AN3386NK
AN3792
AN3794
AN3795N
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AN3811NK
AN3812K
AN3814K
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AN3822K
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AN3990K
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AN5132
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AN5138NK
AN5150N
AN5151N
AN5179K
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AN5195K-B
AN5195K-C
AN5198K
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AP**Code**

AP1501A-ADJ

APU**Code**

APU2470

AS**Code**

AS15-G.SMD

BA**Code**

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BD

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BL

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BU

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CA

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CAT

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CD

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CIC

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CM

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CNX

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CNY

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CVA

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CX

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CXA

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DBL

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DH

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DL

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DM

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DMB

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DTS

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FSD

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FSDH

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GL

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GL3120

HA

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HD

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HIS

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HM

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HM9102

ICE

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IR

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KA

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LAG

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LB

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LC

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LF

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LM

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LT

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LV

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M

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MB

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MCZ

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MD

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MDA

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MN

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PC

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**PLS**

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PQ

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PS

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RSN

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S

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SAA

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SG

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SI

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SK

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SS

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ST

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STA

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STK

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STRD

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STRZ

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TB

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TC

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TCA

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TD

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TDA

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TDA2541Q	TDA4555	TDA7263L	TDA8354Q
TDA2542	TDA4556	TDA7264	TDA8356
TDA2545A	TDA4565	TDA7265	TDA8357J
TDA2545AQ	TDA4566	TDA7266	TDA8358J
TDA2549	TDA4580	TDA7266S	TDA8359J
TDA2555	TDA4600	TDA7267-8P	TDA8360
TDA2560	TDA4600-2	TDA7267A-16P	TDA8360E
TDA2577A	TDA4600-3	TDA7269A	TDA8361
TDA2578A	TDA4601-SIE.	TDA7273	TDA8361A
TDA2579A	TDA4601B.DIL	TDA7274	TDA8361E
TDA2579B	TDA4601D	TDA7293V	TDA8362/N5
TDA2581	TDA4601ST.SGS	TDA7294	TDA8362B
TDA2581Q	TDA4605	TDA7294V	TDA8362E
TDA2582	TDA4605-2	TDA7295	TDA8366N3
TDA2590	TDA4605-3	TDA7296	TDA8370
TDA2591	TDA4610	TDA7297	TDA8374
TDA2593	TDA4650	TDA7313D.SMD	TDA8374A
TDA2595	TDA4660	TDA7318D	TDA8375A



TDA8375AH.SMD
TDA8376
TDA8380A
TDA8395
TDA8405
TDA8415
TDA8416
TDA8417
TDA8424
TDA8425
TDA8440
TDA8442
TDA8443A
TDA8444P
TDA8505
TDA8512J
TDA8560Q
TDA8561Q
TDA8562Q
TDA8563Q
TDA8565Q
TDA8567Q
TDA8568Q
TDA8571J
TDA8722T.SMD
TDA8732
TDA8741
TDA8745
TDA8841SI
TDA8842
TDA8843
TDA8844
TDA8844-S1
TDA8844/N2
TDA8855H.SMD
TDA8885H.SMD
TDA8920BJ
TDA8922BJ
TDA8944AJ
TDA8944J
TDA8946J
TDA8947J
TDA8950J
TDA9102C
TDA9103
TDA9109
TDA9109/SN
TDA9111
TDA9112
TDA9113
TDA9160A
TDA9178
TDA9302H
TDA9321H.SMD
TDA9330H.SMD
TDA9351PS
TDA9361PS/N2/4I078
TDA9361PS/N2/4I088
TDA9370PS/N2/A/120
TDA9381PS/0838
TDA9535
TDA9800
TDA9801T.SMD
TDA9803
TDA9821
TDA9840
TDA9852
TDA9859
TDA9859H.SMD
TDA9860
TDA9870AV2
TDA9873H.SMD
TDA9875A
TDA9885TS.SMD
TDA16833
TDA16846P
TDA16888G.SMD

TDB

Code
TDB1030

TEA

Code
TEA0657
TEA0665
TEA1014
TEA1039
TEA1062
TEA1100
TEA1501
TEA1504
TEA1507P
TEA1520P
TEA1522P
TEA1523P
TEA1524P
TEA2014A
TEA2018A
TEA2024
TEA2025
TEA2025B
TEA2028B
TEA2029C
TEA2031A
TEA2037A
TEA2130
TEA2164
TEA2165
TEA2165A
TEA2260
TEA2261
TEA2262
TEA3717DP
TEA5101A
TEA5101B
TEA5114A
TEA5170
TEA5550
TEA5570
TEA5581
TEA6415C
TEA7530DP
TEA8172

TL

Code
TL061CN
TL062
TL064CN
TL071CN
TL072CN
TL074CD.SMD
TL074CN.DIL
TL081CP
TL082
TL084CN
TL431CLP
TL431CP.DIL
TL489CP
TL494CF
TL494CN
TL497ACN
TL594CN
TL3842
TL3842P
TL8709P

TLP

Code
TLP521
TLP581

TLP621
TLP627
TLP632
TLP633
TLP651
TLP721
TLP721F
TLP732
TLP3063

TMP

Code
TMP47C434AN-R231
TMP47C434N-3147
TMP47C434N-3526
TMP47C434N-3537
TMP47C434N-R221
TMP47C634N-2465
TMP47C834N-R161
TMP47C834N-R165

TMS

Code
TMS1000N2LL
TMS1025N2LL
TMS1943N2L
TMS1944N2L

TNY

Code
TNY253P
TNY254P
TNY255PN
TNY256PN
TNY264P
TNY265P
TNY266P
TNY267PN
TNY268PN
TNY276PN
TNY277PN

TOP

Code
TOP223P

TPA

Code
TPA1517NE

TSC

Code
TSC7106CPL
TSC7126

U

Code
U410B
U416B
U417B
U2829B
U4614B
U4646B-TFK

UA

Code
UA733
UA741CN
UA747CN
UA7805F

UC

Code
UC3524AN
UC3818N

UC3842B
UC3842N
UC3842P
UC3843B
UC3843N
UC3844
UC3844AN
UC3845
UC3846N
UC3882

UCC

Code
UCC3818N

UHC

Code
UHC005

ULN

Code
ULN2001A
ULN2002
ULN2003
ULN2004
ULN2023A
ULN2110A
ULN2803A
ULN2804A

UM

Code
UM9151

UPA

Code
UPA53C
UPA68HA
UPA81C

UPB

Code
UPB571C

UPC

Code
UPC17C
UPC29C2
UPC41C
UPC324C
UPC339C
UPC358C
UPC358G.SMD
UPC393C
UPC494C
UPC554C
UPC566H
UPC574J
UPC575C2
UPC576H
UPC577H
UPC585C
UPC587C2
UPC592H2
UPC1018C
UPC1020H
UPC1024H2
UPC1026
UPC1028
UPC1031H2
UPC1032H
UPC1094C
UPC1094G.SMD
UPC1095G
UPC1154H
UPC1161C3



UPC1167C2
UPC1170H
UPC1171C
UPC1176C
UPC1181H
UPC1185H
UPC1188H
UPC1191V
UPC1197
UPC1210C
UPC1213C
UPC1215V
UPC1216V
UPC1222C
UPC1225H
UPC1228HA
UPC1230H2
UPC1237HA
UPC1238
UPC1241H
UPC1242H
UPC1245V
UPC1252H2
UPC1263
UPC1270H
UPC1288V
UPC1290C
UPC1296G
UPC1297CA
UPC1298V
UPC1308V
UPC1310V
UPC1313HA
UPC1316C
UPC1318AV
UPC1335V
UPC1342V
UPC1350C
UPC1351C
UPC1356C2
UPC1362C
UPC1363C
UPC1363CA
UPC1364C
UPC1373H
UPC1377C
UPC1378H
UPC1379
UPC1382C
UPC1384C
UPC1391H
UPC1394C
UPC1397C
UPC1403CA

UPC1406HA
UPC1420CA
UPC1458C
UPC1470
UPC1474HA
UPC1475HA
UPC1488H
UPC1490HA
UPC1498
UPC1504C
UPC1505C
UPC1513HA
UPC1514CA
UPC1516CA
UPC1519HA
UPC1524C
UPC1525C
UPC1526C
UPC1534C
UPC1536C
UPC1571C
UPC1605G.SMD
UPC1651G
UPC1853CT
UPC1891ACY
UPC2002
UPC2500H
UPC2581V
UPC4557C
UPC4558C
UPC4558G.SMD
UPC4570C.DIL
UPC4570G.SMD
UPC4570HA.SIL
UPC7915H
UPC7918H
UPC14312H
UPC14315
UPC16315H

UPD

Code
UPD858
UPD1701C-011
UPD1701C-013
UPD1701C-014
UPD1987C
UPD7507HC-070
UPD22100C
UPD75008GBE04
UPD75106CW-103
UPD75208CW-105
UPD75208CW-219

VIPER

Code
VIPER12A
VIPER20A-5PIN
VIPER20A-8PIN
VIPER22A
VIPER100
VIPER100ASP.SMD

VPG

Code
VPG101T

X

Code
X0031CE
X0035TA
X0037CE
X0038TA
X0040TA
X0053CE
X0054CE
X0062CE
X0063CE
X0065CE
X0104TA
X0109CE
X0122GE
X0129CE
X0134GE
X0147CE
X0164PA
X0191CE
X0195CE
X0200CE
X0203GE
X0205CE
X0206CE
X0214CE
X0226GE
X0238CE
X0247CE
X0250CE
X0256CE
X0261CE
X0262CE
X0262GE
X0263CE
X0274CE
X0275CE
X0304GE
X0305CE
X0308-KIT

X0308-O.ORIGINAL
X0308.SUBSTITUTE
X0313CE
X0319CE
X0322GE
X0355CE
X0365CE
X0416AG
X0431GE
X0439CE
X0448GE
X0465CE
X0506CE
X0512CE
X0601CE
X0602CE
X0603CE
X0640CE
X0689CE
X0712CEN1
X0715CE
X0731CE
X0933AF
X0986GE
X969CEN1
X1011CE
X1013GE
X1040AF
X1118CE
X1148
X1192AF
X1195AF
X2144CE

XL

Code
XL24C04P

XLU

Code
XLU2896K.SMD
XLU2899K.SMD

XRA

Code
XRA6435S
XRA6439P
XRA7039

Z

Code
Z0032WREO
Z80A-CPU
Z80A-CTC
Z80AP10

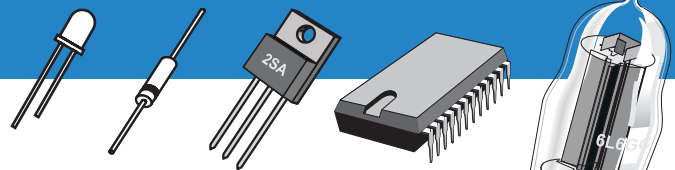
DATA AVAILABLE:

FREE DATASHEET SOURCES:

www.alldatasheet.com

www.datasheetcatalog.com

www.eserviceinfo.com



PHILIPS Panasonic



MOTOROLA

National Semiconductor
The Super & Smart Semiconductor

DALLAS SEMICONDUCTOR

SHARP SANYO

ANALOG DEVICES

STMicroelectronics

TEXAS INSTRUMENTS

TOSHIBA
FAIRCHILD SEMICONDUCTOR

ON
ON Semiconductor®

ESCA

CETA
QUALIFIED SERVICE WITH INTEGRITY



01 SEMICONDUCTORS

01 SEMICONDUCTORS/VALVES/MISC

→ Amplifier Module

AMPLIFIER MODULE

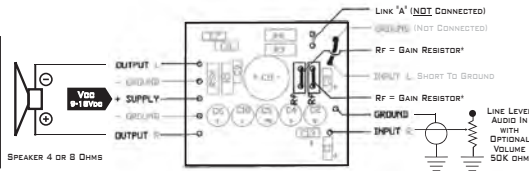
This is a pre-built dual audio power amplifier module. It is designed for universal use as a high power, low distortion, low noise replacement amp and has simple installation. This module can operate from 9Vdc to 25Vdc (12V-18V Nom) making the EP22 suitable for use in many different replacement or project applications. At 13.2V the IC draws about 2A full volume. Very compact at only 32 x 36 x 20mm. The IC tag is earthed so it mounts direct to the chassis or heatsink (required but not supplied). Heat disipation is around 25W. The IC is a genuine Toshiba Chip boasting impressive performance and phenomenal device protection! (Over voltage, Thermal, Short circuit, etc.) This incredible little module operates in high power BTL mode for a mono output of 22Wrms into 4ohm (11W into 8ohm), or can be quickly modified to operate in stereo mode giving 5.5W x2 into 4ohm (requires the addition of 2x 1000µf isolation capacitors). Changing the gain resistors will enable any sensitivity on the input, from mic to CD (pre-set to line level input). You will find the EP22 easy to set up, efficient and stable. Supplied wired in BTL mode, includes instructions. May require additional components depending on application.

- TA7280P
- 9V - 25Vdc max
- 12V-18Vdc Nom.
- Stereo 5.8Wrms
- (Requires Isolation Caps)
- BTL Mono 22Wrms
- Requires Heatsink
- Line Level I/P
- Change gain R
- 32x36x20mm



Code
EP22

**HIGH POWER BTL
MONO OPERATION**
22Wrms (4ohm)

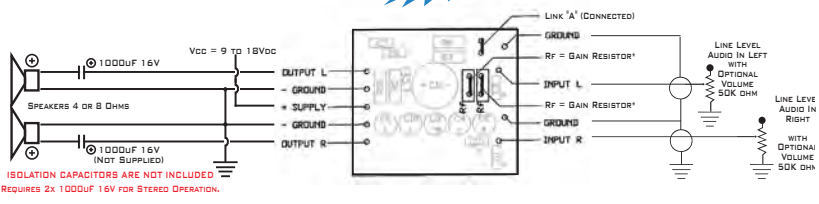


Mounts Direct To Chassis!

HEATSINK REQUIRED!
About 5'c/w or 25cm² Surface area



STEREO MODE
5.8W X2 INTO 4 ohm
For this mode you have to make some modifications:



ISOLATION CAPACITORS ARE NOT INCLUDED
REQUIRES 2x 1000µF 16V FOR STEREO OPERATION.

→ Tools & Service Aids

SMD REWORK STATION

HOT AIR BLOWER WITH GAUGE

New improved model featuring an updated mechanism and heating system Consistent temperature of hot air is afforded by this new design Adjustable airflow volume control with direct analogue airflow meter This improved performance provides easier, quicker, professional results New automatic cool-down function improves the heater elements life time The new modern design unit is also more compact and fully ESD safe Air blow capacity is adjustable from 5 to 20 Litres per minute Hot Air Temperature is adjustable from 100°C to 420°C (using A1126B) A comprehensive range of air nozzles and parts are available separately.

Code
FR801



ILLUMINATED MAGNIFIERS

Can't read the small print?

- | Size | Code |
|-------|--------|
| 50mm | IMG50 |
| 75mm | IMG75 |
| 110mm | IMG110 |



DESK LAMP
MAGNIFIERS
& MORE
Section 14!

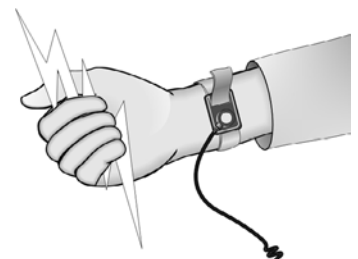
ELECTROSTATIC PROTECTORS

Don't zap things!

See Section 14 TOOLS & TEST EQUIPMENT for complete kits!

Wrist Strap

Code
ASW115





→ Tools & Service Aids

SERVICE AIDS IN A CAN

Description	Code
Rework Solder Flux non-corrosive free flux	SMFL200D
Circuit Board Cleaner. For heavy duty cleaning..	RF65



See Section 14 TOOLS & TEST EQUIPMENT

PRESS-TO-RESEAL PLASTIC BAGS

Clear plastic with write-on label. Order One To Receive A Bag Of One Hundred.

120x80mm Small

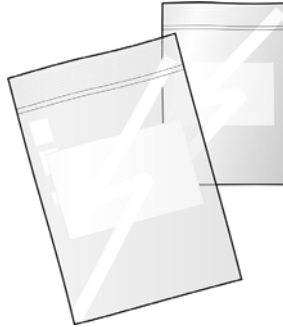
Code
PB128

170x100mm Medium

Code
PB1710

250x140mm Large

Code
PB2514



FARADAY ANTI-STATIC BAGS

STATIC SHIELDING STATIC DISSIPATIVE 100 BAGS PER PACK

Industry standard tinted static bags. Metalised and 40% transparent. Heat sealable. Non-tear polycarbonate. Creates a Faraday cage envelope to protect contents from static fields. Order one to receive a bag of 100.



Supplied
100
Pieces

Size	Code
100x150mm	ASB46
150x200mm	ASB68
200x300mm	ASB812
250x350mm	ASB1014
300x400mm	ASB1216
375x450mm	ASB1518



SILICONE HEAT COMPOUND

10g SYRINGE

Code
RF44

10g TUBE

Code
SIL10

150g TUBE

Code
SIL150

50g SYRINGE

Code
SIL50



HEAT TRANSFER COMPOUND JAPANESE OEM

AS USED BY MOST ORIGINAL MANUFACTURERS

NOTE: SETS HARD LIKE GLUE.

Thermal failures continuing, even after using quality silicone heat compound, can still occur. This is caused by the heatsinks being just large enough for the very high thermal specification, leaving no overhead! For this situation you must use a very highly specified heat transfer compound.

Made in Japan. As used by most OEM.

Size	Code
150g	TSE3843W



SOLDERING TOOLS

Contains 6 double sided tools designed to carry out repairs professionally & quickly. Suitable for surface mount applications.

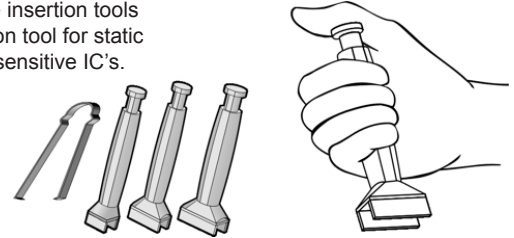


Code
SA10

IC TOOL SET

Consists of three insertion tools and one extraction tool for static free handling of sensitive IC's.

Code
ICT4



IC STRAIGHTENER

ANTI-STATIC
Double sided for LSI and ICs. Bends vertical so pins align. Ground terminal.

Code
ICS01



PLCC IC EXTRACTOR

For those delicate ICs with pins on all sides. This extractor first hooks under the diagonal corners then pulls upward evenly, removing the package without damage.

Code
CY850



SMD PICKUP TOOL

Helps lift & remove SMD ICs, etc. HANDLE supplied with Small wire. Suit Hakko Rework Stations (14).

Type	Code
Handle	B1438
Small	B1439
Large	B1440



SOLDERING FLUX

Size	Code
55ml	BS550

DISPENSERS

Description	Code
Bottle 55ml	BOT55E
Pen	PEN200



See Section 14 TOOLS & TEST EQUIPMENT



→ Cross-Reference Data

SEMICONDUCTOR WORLD DATA BOOKS

On how many occasions have you looked at a semiconductor and wondered if it is a transistor, triac or SCR ? Have you spent valuable time going through various data books looking for clues? Now we have the data books you require. These are in ALPHA-NUMERIC order regardless of whether the device is a transistor, semiconductor, SCR, TRIAC, IC or diode. The listing consists of a short description and where known, possible substitutions, thus finding information will be so much easier. Purchase both manuals together for a discount....

Volume 1

Contains listings on devices

A.....Z, eg. AD, BC, BCW,BCY, BD, BDW, BF, BLX, BS,BSP, BYW, CCS, FT, HD, HA,KSA, LA, LB, M, MC, MM, MPS,OA, OM, PN, SAB, SE, SFT,ST, TA, TSC, UA and many more.

Code
MAN36



Volume 2

Contains listings on devices 1N.....60,000.....U eg. 1N, 1S, 2N, 2SA, 2SB,2SC, 2SB, 2SC, 2SD, 2SK, 3SK 3N, UPC and others.

Code
MAN37



→ PCB & Bread Boards

UNIVERSAL PROTOTYPE PCBs

High quality, pre-drilled printed circuit boards for experiments, prototypes, one-off projects, etc. All use 0.9mm drilled, 2.45mm spacing (10th").

BREAD BOARD TYPE

V strips and rails.

Size Code
130x47mm PCB111

DIP PACKAGE TYPE

Larger projects with ICs.

Size Code
140x110mm PCB112

MATRIX TYPE

Solder your own tracks.

Size Code
160x115mm PCB116

MINI BREAD BOARD

Duplicate your test layout.

Size Code
72x47mm PCB113

SINGLE DIP TYPE

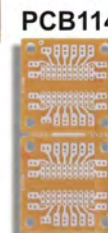
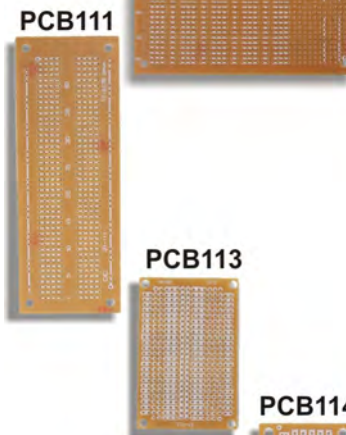
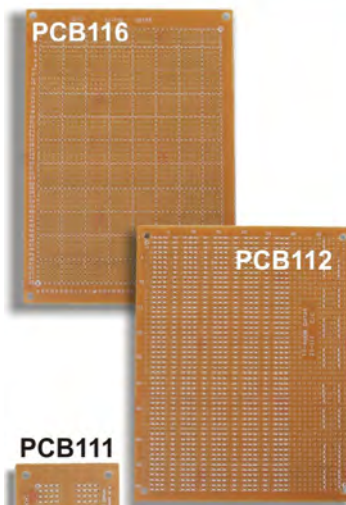
Split board for IC.

Size Code
45x45mm x2 PCB114

STRIP BOARDS

Full length tracks.

Size Code
250x100mm PCB119
160x100mm PCB118



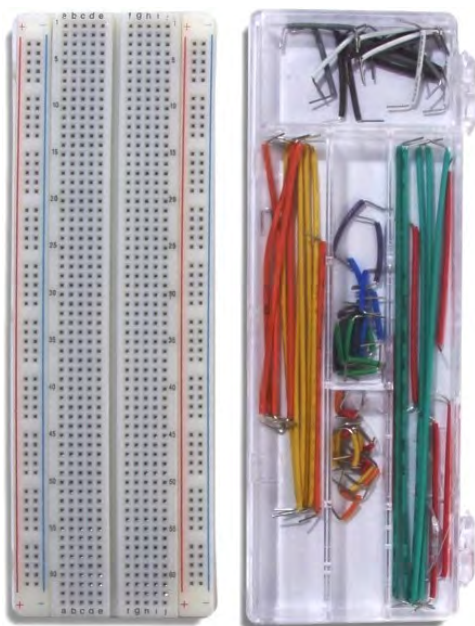
→ PCB & Bread Boards

PROTOTYPE BREADBOARD KIT

WITH WIRE KIT

Solderless terminal strip board with standard spacing for designing & experimenting with electronic circuits, etc. Horizontal strips for power and vertical for IC & component insertion. Includes pre-cut jumper lead kit in an easy storage container. 2.45mm spacing. 630+200 terminal holes.55x165mm. Adhesive back.

Code
U21J





→ Insulation Washers & Hardware

MICA WASHER

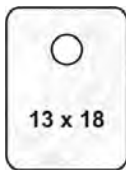
Heat resistant washers for transistor and IC placement. Don't forget the Silicone heat compound. Its important! Outer dimensions may differ slightly on stock.

NOTE: ORDER ONE TO RECEIVE A PACK OF TEN



12 X 3

Code
YC18



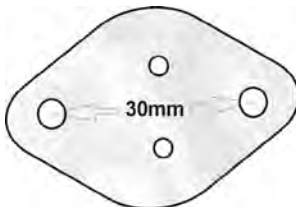
13 x 18

Code
YC16



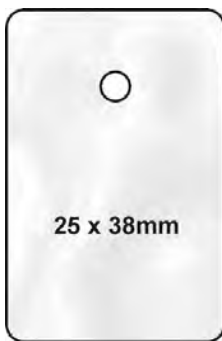
19 x 22

Code
YC35



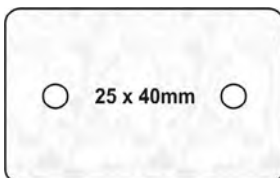
30mm

Code
YC41



25 x 38mm

Code
YC23



25 x 40mm

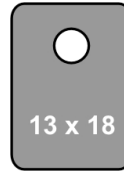
Code
YC90

SILICON WASHER

High thermal conductivity
0.3mm Grey 210°C 4KV

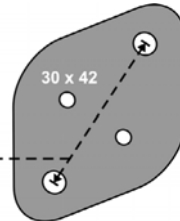
NOTE: ORDER ONE TO RECEIVE A PACK OF TEN

Code
SIL160



13 x 18

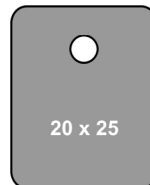
Code
SIL350



30 x 42

30mm

Code
SIL410



20 x 25

SILICON HEAT SHEET

Cut to size.
100 x 100 x 0.3mm

Code
SIL100



BLANK SHEET
Heat Resistant
Silicon Rubber
100 x 100mm

SILICON HEAT COMPOUND

Heat Transfer Compound
General Purpose

Size	Code
10g	SIL10
150g	SIL150



SILICONE HEAT COMPOUND

HANDY SYRINGE APPLICATOR
Quality heat transfer compound.

Size	Code
25ml / 50g	SIL50



NON-SILICON HEAT COMPOUND

Easy, no mess application.
Supplied in syringes

Size	Code
10ml	RF44
35ml / 70g	HTC35SL

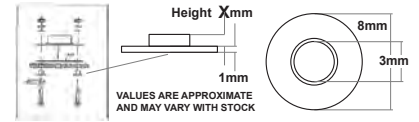


OTHER SERVICE AIDS
See Section 14

INSULATOR WASHERS

Heat resistant plastics. Suit most transistor and IC mountings. Outer lip dimensions may differ slightly from stock.

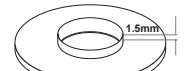
NOTE: ORDER ONE TO RECEIVE A PACK OF TEN



VALUES ARE APPROXIMATE AND MAY VARY WITH STOCK

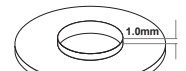
1.5mm WASHER

Code
YC13



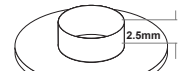
1mm WASHER

Code
YC20



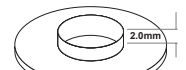
2.5mm WASHER

Code
YC10



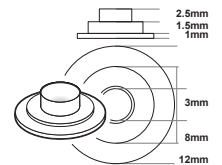
2mm WASHER

Code
YC31



STEPPED WASHER

Code
YC12



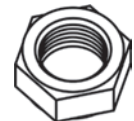
MOUNTING HARDWARE

Miscellaneous Nuts & Bolts suitable for heat sink applications.

NOTE: ORDER ONE TO RECEIVE A PACK OF TEN

METAL NUT

Code
YC85



METAL SCREW

Code
YC81



METAL WASHER

I/D	O/D	Code
3mm	6 to 8mm	YC83



PLASTIC SCREW

Code
YC80



PUSH-ON NUT

Code
YC87



SPRING WASHER

Code
YC84



TAGGED WASHER

Code
YC86





→ IC Sockets

LOW PROFILE IC SOCKETS

Pins	Width	Code
8	7.5 mm	ICS8
14	7.5 mm	ICS14
16	7.5 mm	ICS16
18	7.5 mm	ICS18
20	7.5 mm	ICS20
22	7.5 mm	ICS22
24	15 mm	ICS24
24	7.5 mm	ICS24S
28	15 mm	ICS28
28	7.5 mm	ICS28S
32	15 mm	ICS32
40	15 mm	ICS40
42	15 mm	ICS42



IC SOCKET PINS

Simply cut to size.
Gold plated contacts.

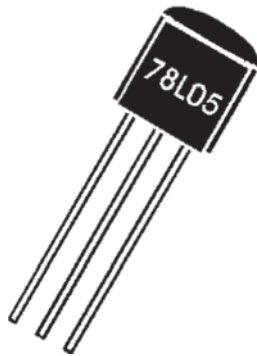
Pins	Code
20	ICP20
32	ICP32



→ Regulators

VOLTAGE REGULATORS TO92 100mA

Voltage	Code
+5	78L05
+6	78L06
+8	78L08
+9	78L09
+10	78L10
+12	78L12
+15	78L15
+18	78L18
-5	79L05
-6	79L06
-8	79L08
-9	79L09
-10	79L10
-12	79L12
-15	79L15
-18	79L18
-24	79L24



VOLTAGE REGULATORS TO220 1A

Voltage	Code
+5	L7805CV
+6	L7806CV
+8	L7808CV
+9	L7809CV
+12	L7812CV
+15	L7815CV
+18	L7818CV
+24	L7824CV
-5	L7905CV
-6	L7906CV
-8	L7908CV
-9	L7909CV
-12	L7912CV
-15	L7915CV
-18	L7918CV
-24	L7924CV

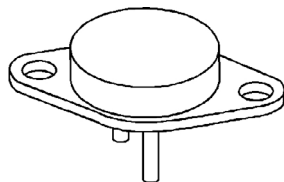


VOLTAGE REGULATORS TO3 1.5A

Voltage	Code
+5	L7805CT
+12	L7812CT
-5	L7905CV
-12	L7912CT

3A +5V

Code
LM323K

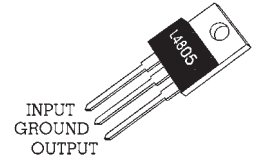


→ Regulators

VERY LOW DROP REGULATORS TO220 400mA

Designed for use in automotive & other applications where 0.4V in/out drop is required. Thermal, Over/Reverse V protected.

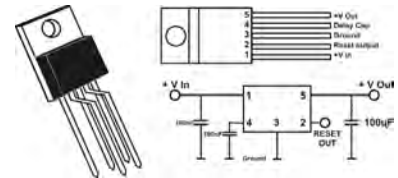
Voltage	Code
+5	L4805
+8.5	L4885
+10	L4810



VERY LOW DROP WITH RESET TO220 500mA

0.4V drop, with power on/off reset.

Voltage	Code
+5	L487



SMD 5V VOLTAGE REGULATOR

5V 50mA
Code
78LR05

- 1 - INPUT 35Vmax
- 2 - DELAY CAP
- 3 - GROUND
- 4 - RESET OUTPUT
- 5 - REG. OUTPUT



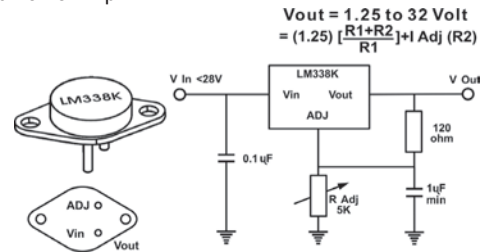
8 PIN VERSION
5V 100mA
Code
78L05-SOP-8P



VARIABLE VOLTAGE REGULATOR 5A TO3

A remarkable device, with minimum external components, a variable output voltage of 1.2 to 32 volts is possible. Vin Max 40V, Iout Max 5 Amp.

Code
LM338K



LOW-DROP 5A LINEAR REGULATOR

3 terminal adjustable or fixed
5.0A Output Current maximum 6.5A
Operates down to 1V Dropout
Maximum input voltage is 12V

AZ1084D PACKAGE: TO252

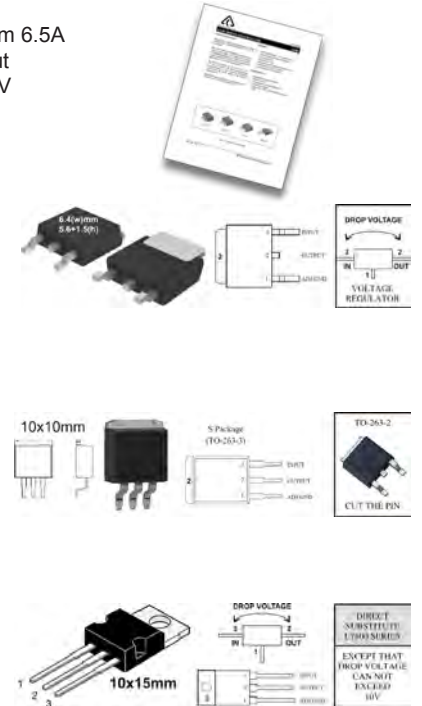
Volts	Code
1.8V	AZ1084D-1.8
2.5V	AZ1084D-2.5
3.3V	AZ1084D-3.3
5.0V	AZ1084D-5.0
ADJ	AZ1084D-ADJ

AZ1084S PACKAGE: TO263-3

Volts	Code
1.8V	AZ1084S-1.8
2.5V	AZ1084S-2.5
3.3V	AZ1084S-3.3
5.0V	AZ1084S-5.0
ADJ	AZ1084S-ADJ

AZ1084T PACKAGE: TO220

Volts	Code
2.5V	AZ1084T-2.5
3.3V	AZ1084T-3.3
5.0V	AZ1084T-5.0
ADJ	AZ1084T-ADJ





→ Diodes Zener

ZENER DIODES 0.5W

2.7 3.3 3.6 3.9 4.3 4.7 5.1 5.6 6.2 6.8 7.5 8.2
9.1 10 11 12 13 15 16 18 20 22 24 27 30 33 36
39 43 47 51 56 62 68 75 Volts.

Order as follows - .5 watt =.5Z + voltage, eg:

Description	Code
Example	.5Z3.3

ZENER DIODES 1W

2.7* 3.3 3.6 3.9 4.3 4.7 5.1 5.6 6.2 6.8 7.5 8.2 9.1
10 11 12 13 15 16 18 20 22 24 27 30 33 36 39 43
47 51 56 62 68 75 Volts.

Order as follows - 1 watt =1Z + voltage, eg:

Description	Code
*Exception:	1Z2.7
Example	1Z75

ZENER DIODES 5W

3.9 4.3 4.7 5.1 7.5 8.2 9.1 Volts, 10 11 12 13 15
16 18 20 22 24 27 30 Volts, 33 36 39 43 47 51 56
62 68 75 91 Volts.

Order as follows - 5 watt =5Z + voltage, eg

Description	Code
Example	5Z3.9
Example	5Z91

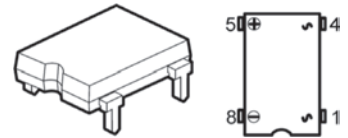
MORE ZENER DIODES
[As Specific Part No.s]
SEE NEXT PAGE...



RECTIFIER BLOCK

Used in VCRs etc.

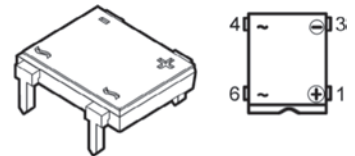
Code
SIWBA60S



RECTIFIER BLOCK

1.5A, 200V, SMD Type

Code
D1102S

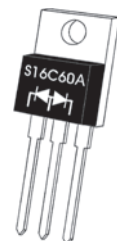


1.5A, 600V (DF06)

Code
D1106

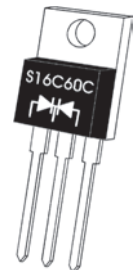
DIODE PACK 16A COMMON ANODE

Description	Code
16 AMPS, 60 VOLTS Neg.	S16C60A
16 AMPS, 600 VOLTS Neg.	F16C60C



DIODE PACK 16A COMMON CATHODE

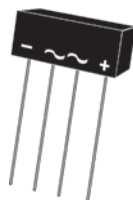
Description	Code
16 AMPS, 60VOLTS Pos.	S16C60C



→ Diodes Rectifiers

BRIDGE RECTIFIERS FLAT-PACK

PIV	Vrms	Amps	Code
200	140	1.5	KBP152
600	420	1.5	KBP156
400	280	4	KBL404
600	420	4	KBL406
200	140	6	KBU602
600	420	6	KBU606
1000	700	2	BL2-10



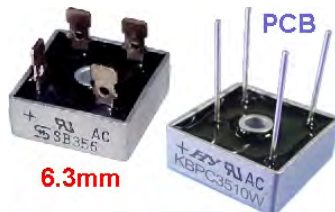
BRIDGE RECTIFIERS HEAVY-DUTY

420Vrms 35A 6.3mm

PIV	Code
600V	BP35-06

420Vrms 35A PCB

PIV	Code
600V	BP35-06W



BRIDGE RECTIFIERS HEAVY-DUTY

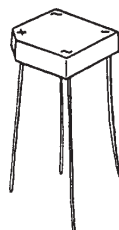
420Vrms 50A 6.3mm

PIV	Code
600V	BP50-06



BRIDGE RECTIFIERS BLOCK-PACK

PIV	Vrms	Amps	Code
50	35	1.5	W005
400	280	1.0	W04
600	420	1.5	W06
50	35	3	SB305
200	140	3	SB320
600	420	3	SB360
200	140	6	SB603
600	420	6	SB605



PANASONIC MICROWAVE RECTIFIER

As used in the newer "Inverter" type ovens. AESTRBV6206

Code
D20XB60

Other Panasonic Inverter
SMPS parts - See Section 10
MICROWAVE COMPONENTS

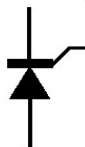
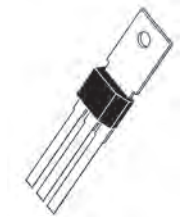
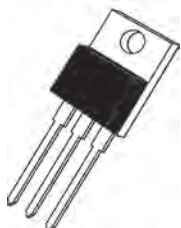
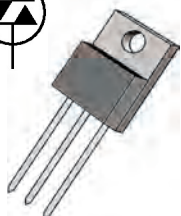
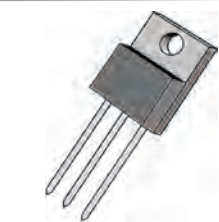




→ Triacs

GENERAL PURPOSE TRIACS

Current	Voltage	Code
4A	400V	BTB04-400
4A	600V	BTB04-600
6A	400V	BTB06-400
6A	600V	BTB06-600
8A	400V	BTB08-400
8A	600V	BTB08-600
10A	400V	BTB10-400
10A	600V	BTB10-600
12A	400V	BTB12-400
12A	600V	BTB12-600
12A	700V	BTB12-700
16A	400V	BTB16-400
16A	600V	BTB16-600B
4A	600V	BT136-600
4A	800V	BT136-800
8A	600V	BT137-600
8A	800V	BT137-800
12A	800V	BT138-800
16A	800V	BT139-800
12A	500V	BT151-500R
12A	600V	BT151-600R
12A	650V	BT151-650R
12A	800V	BT151-800R



INSULATED TYPES

Current	Voltage	Code
10A	600	BTA10-600C
10A	700	BTA10-700C
12A	400	BTA12-400C
16A	600	BTA16-600
16A	800	BTA16-800B
40A	700	BTA40-700B

THYRISTORS, TRIACS and SCRs

Description	Code
THYRISTOR 500V 2A	2P5M
TRIAC 600V 5A	AC05DGM
TRIAC	AC03E
TRIAC	AC08DGM
TRIAC 600V 1A	BCR1AM-12
TRIAC 400V 3A	BCR3AM-8
TRIAC 600V 3A	BCR3AM-12
TRIAC 600V 5A	BCR5AM-12
TRIAC 600V 6A	BCR6AM-12L
TRIAC 600V 8A	BCR8PM-12L
THYRISTOR 500V 5A	BT100
TRIAC 600V 8A	BTA08-600C
THYRISTOR 30V 1A	BR203
400V 0.8A	BRY55-400
Discontinued use 15-80H	BSTCC0146H
Discontinued use 15-85R	BSTCC0146R
TRIAC 400V 0.8A	MAC97A6
SCR 200V 2A	SF2D41
SG264 THYRISTOR	SG264
SG613 THYRISTOR	SG613
SCR 200V 6.4A	2SF248
THYRISTOR 400V 2A	C106D
THYRISTOR 600V 2A	C106M
THYRISTOR 400V 3A	3P4MH
THYRISTOR 400V 5A	5P4M
THYRISTOR 600V 5A	5P6M
THYRISTOR	15-80H
THYRISTOR	15-85R
TRIAC 6A 400V	SC141D

STUD DIODE

High surge current 500A/1200A 10mS.
Up to 1200 V VRRM. RoHS compliant.
Nut=18mm, Hole=6.35mm, Height=36mm
Standard is Chassis as Cathode

Current	Volts	Code
40A	1200V	40HF120
70A	1200V	70HF120

Reversed is Chassis as Anode

Current	Volts	Code
40A	1200V	40HFR120
70A	1200V	70HFR120



→ Diodes

DIODE



Description	Code
Germanium (Gi) 50mA 50V	1N60
1A 50V Use 1N4002	1N4001
1A 200V General Purpose/Rectifier Diode	1N4002
1A 400V General Purpose/Rectifier Diode	1N4004
1A 1000V General Purpose/Rectifier Diode	1N4007
0.2A 100V 4nS Fast recovery	1N4148
1 A 600V Fast recovery	1N4937
3A 400V General Purpose/Rectifier Diode	1N5404
3A 1000V General Purpose/Rectifier Diode	1N5408
Schottky-Gi 40V 1A	1N5819
Low Drop Power Schottky Rectifier 3A	1N5822
Dem.Uni,35V,0.1A eq.BA147/50/87-90,1N5606-09	1S1555
600V 1A Fast recovery BY126/7,33-35,	1S1888
S,35V,0.1A, 100nS	1SS53
S,100V,0.1A, 100nS	1SS55
0.2A 250V Fast recovery	1SS82
35V 100ma Band switching	1SS110
0.11A 40V 4nS Fast recovery	1SS133
Yellow 50V 250mW 1.5nS Switching Diode	1SS254
Use RH2F	SB2C
THYRISTOR 500V 2A	2P5M
1000V 1A Valley point current diode	BA159
0.25A 250V Switching Diode	BAV21
1,200V 1A General Purpose Use BY228	BY127
1,600V 2.5mA General Purpose	BY176
1.2A 50V Special Purpose	BY188
TV Rectifier 400ma 350V Use BYV95c	BY206
1.5A 1200V TV Damper Diode Use BY228	BY227
1.75A 1500V TV Damper Diode	BY228
Use BY329-1200	BY229-800
Use BY329-1200	BY229-1000
2A 800V TV Fast recovery	BY299
7A 1200V TV Damper, 150nS	BY329-1200
7A 1500V TV Damper, 300nS	BY359-1500
3A 800V TV Fast recovery	BY399
Use BYV95C	BY407
5A 200V Rectifier Diode	BY550-200
Use 600V	BY550-400
5A 600V Rectifier Diode	BY550-600
200V 0.4A SiDi Cont'Av' 300nS	BYD33D
600V 1.5A SiDi Cont'Av' 250nS	BYV95C
1000V 1A Controlled avalanche Diode	BYV96E
600V 3A Controlled avalanche Diode	BYW95C
1000V 3A Controlled avalanche Diode	BYW96E
Use BY229-600	BYX71-600
400V 3A Fast recovery 50nS	EGP30G
600V 2A Fast recovery	FR205
1000V 3A Fast recovery	FR307
1000V 6A Fast recovery	FR607
14KV 5mA Diffused Junction HT	FV5M-20
800V 3A Fast recovery 75nS	HER307
350mA 12000V Diode	HV05-12
Microwave replacement for 2X062H	HV6X2P
Microwave 9KV 350mA	HVR1X4
40V 200mA Si Switching Diode	MA178
200V 200mA Si Switching Diode	MA185
Use 1N60	OA90
Ge Signal Diode Uni,115V,50mA	OA91
GP Plastic Rectifier (M=1KV) 6A	P600M
173V Zener	R2K
Sharp TV RHEX0397CEZZ	R2KN
Sharp Protection Diode	R2KS
130V Protection diode	R2KY
150V Protection Diode	R2M
1500V 2.5A-IF(AV) 5A-IFSM	RH3F
200V Protection diode	RY23
400V Protection diode	RY24
Use UF5408	UF5404
Microwave Stack Diode A6202-4N10T	UX-C2B
Microwave Diodes SEE SECTION 10	ZA018

Diode Substitutions : See MAN36 & MAN37 Diode Substitutions :
See VRT-DVD Data Base Microwave Diodes : See Section 10



→ Optocouplers

PHOTO-OPTOCOUPLER - COSMO

The alternative in optocouplers, To Save You Money ! Equivalent specs' or better to listed substitute part numbers. Cosmo. With all approvals.

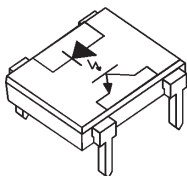
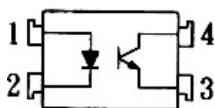


PHOTO-OPTOCOUPLER 4 PIN

Suit PC817, PS2501, 2561, TLP421, 521, 621, SFH610, 611, 615, SFH618, 628 H11A817, and more.



Code
K1010

If 50mA
Viso . . . 5KV
Vceo . 60Vrms
CTR . . . 50%
I_r 2mA
Tr 5µs
RI 1000

PHOTO-OPTOCOUPLEDERS - OEM

Isolation V	O/P Device.	I/TX%	BV CEO	Code
1775	Transistor	20	30	4N25
1060	Transistor	20	30	4N26
350	Transistor	10	30	4N28
500	Transistor	100	30	4N35
500	Transistor	100	30	4N36
1770	Transistor-H.V	10	80	4N38A

PHOTO-OPTOCOUPLEDERS - OEM

As used in videos etc.

Code
ON3105
ON3131
ON3171

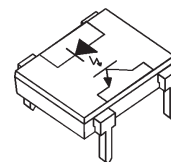
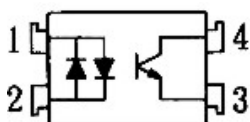


PHOTO-OPTOCOUPLER 4 PIN AC

Suit PC814, PS2505, 2565, TLP620, 626, SFH620, LTV814, H11AA814, and more.

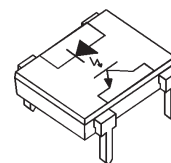


Code
K3010

If 60mA
Viso . . . 5KV
Vceo . 60Vrms
CTR . . . 60%
I_r 1mA
Tr 5µs
RI 1000

PHOTO-OPTOCOUPLEDERS - OEM

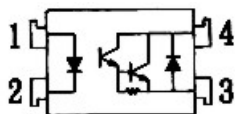
Code
PC111S
PC113
PC120
PC123
PC714
PC813
PC814
PC816
PC817



PC121FY substitute to PC123.
PC111S As used in videos etc.

PHOTO-OPTOCOUPLER 4 PIN B

Suit PC852, PS2532, TLP523, TLP627, SFH619, and more.



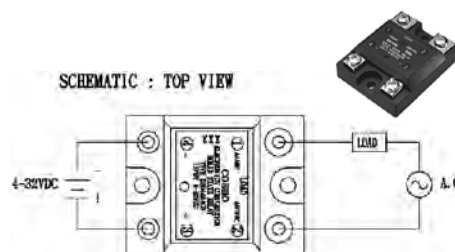
Code
K4010

If 50mA
Viso . . . 5KV
Vceo 300Vrms
CTR . . . 600%
I_r 1mA
Tr 60µs
RI 1000

→ Solid State Relays

SOLID STATE RELAY 40A 250VAC

I_{out} 40Arms AC
V_s 4→32Vdc
I_s 12→5mA
V_{out} 250Vrms AC
Viso 4000Vac
Riso 10GO
Code KSD240AC8



SOLID STATE RELAY 40A 480VAC

V_s 4→32Vdc
I_s 12→5mA
V_{out} 480Vrms AC
I_{out} 40Arms AC
Viso 4000Vac
Riso 10GO
Code KSD440AC8

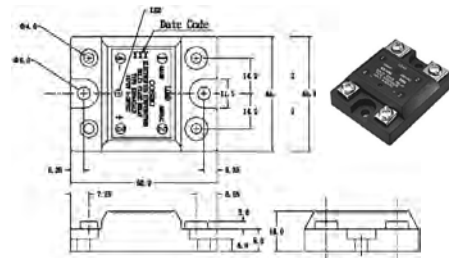
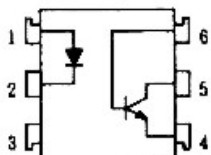


PHOTO-OPTOCOUPLER 6 PIN

PC4N35, PS2601 4N35, 36, 37, 38, TLP331, 531, 631, SFH600, 601, 608, MCT2, 5210, 5211, H11A1, and more.

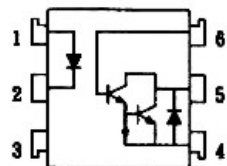


Code
4N35

If 50mA
Viso . . . 5KV
Vceo . 60Vrms
CTR . . . 60%
I_r 2mA
Tr 5µs
RI 1000

PHOTO-OPTOCOUPLER 6 PIN B

Suit PC852, TLP371, IL66-4, H11B1, MOC119, 8020, and more.

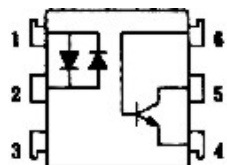


Code
K5010

If 50mA
Viso . . . 5KV
Vceo 300Vrms
CTR . . . 600%
I_r 1mA
Tr 60µs
RI 1000

PHOTO-OPTOCOUPLER 6 PIN AC

PC733, PS2605 TLP330, 630, H11AA1, 2, 3, 4, IL250, 251 IL252, 255, and more.



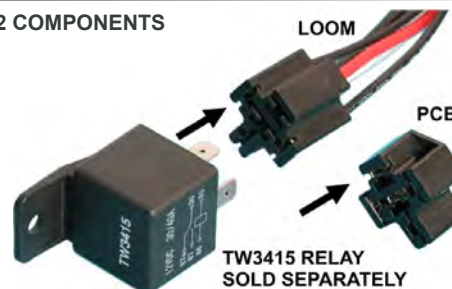
Code
K6010

If 50mA
Viso . . . 5KV
Vceo . 60Vrms
CTR . . . 60%
I_r 1mA
Tr 5µs
RI 1000

RELAYS

SEE SECTION 02 COMPONENTS

Mechanical types





→ LEDs and Photo-Optics

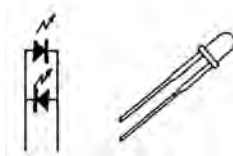
2mm TIP LED

Colour	Code
RED	LED2R
GREEN	LED2G



3mm GREEN / RED

Code
LED3GR



3mm LED

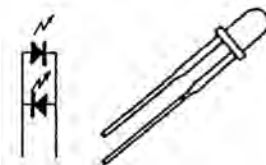
Colour	Code
RED	LED3R
GREEN	LED3G
YELLOW	LED3Y



High Bright - See Below

5mm GREEN / RED

Code
LED5GR



3mm BRIGHT LED

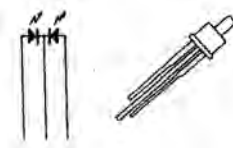
Colour	Description	Code
RED	850 mCd	LED3BR
GREEN	500 mCd	LED3BG
YELLOW	500 mCd	LED3BY



3mm GREEN / RED

(Both=Yellow)

Code
LED3GRY



4mm LED

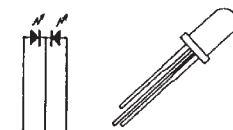
Colour	Code
RED	LED4R
GREEN	LED4G
YELLOW	LED4Y



5mm GREEN / RED

(Both=Yellow)

Code
LED5GRY



5mm LED

Colour	Code
RED	LED5R
GREEN	LED5G
YELLOW	LED5Y

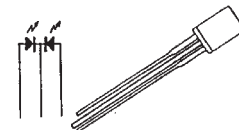


High Bright - See Below

2x5mm GREEN / RED

(Both=Yellow)

Code
LED25GRY



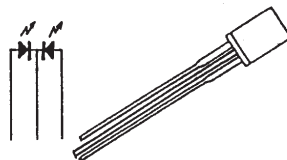
5mm BRIGHT LED

Colour	Description	Code
RED	350 mCd	LED5BR
RED	850 mCd	LED5SBR
RED	1800 mCd	LED5UBR
GREEN	200 mCd	LED5BG
YELLOW	660 mCd	LED5BY
YELLOW	900 mCd	LED5SBY



2x5mm GREEN / YELLOW

Code
LED25GY



2x5mm LED

Colour	Code
RED	LED25R
GREEN	LED25G
YELLOW	LED25Y



5mm 2Hz FLASHING DIODE

2-15Vdc

Colour	Code
Green	LED5GF
Red	LED5RF



CHROME BEZEL 12V

LED with resistor.
Suit 8mm diam' hole.

Colour	Code
Red	PL6R
Green	PL6GN
Yellow	PL6YL
Empty	MTG5CHRM



LED PANEL MOUNT CLIP

Suit 5mm LED's.
6.2mm bezel with locking washer for a more secure hold of the LED to the panel assembly (2.8mm max thick).

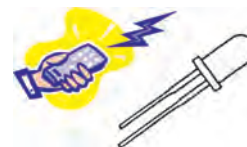
Code
MTG5



IR EMITTER DIODE

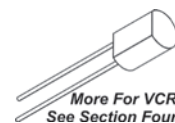
As used in remote controls etc.

Code
CQY89



IR RECEIVER DIODE

Equiv.	Code
PH310	PN323



More For VCR
See Section Four

IR RECEIVER

PHOTO TRANSISTOR

Infra-Red, etc.
Vce Max 5V
I dark 100µA
I light 20mA



Size	Colour	Code
3mm	Clear	IRR34C
3mm	Black	IRR34D
5mm	Clear	IRR53C
5mm	Black	IRR53D

LOW VOLTAGE LIGHTS

SUPER LEDs

New generation High brightness LEDs in Low-Voltage Lighting bezels (M16, etc.)
For our full comprehensive range see Section 12.



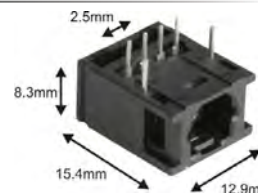
→ Optocouplers

TOSLINK PCB

I/O MODULE

Toshiba OEM
Suit FibreOptic Cable HiFi

Code
TOTX173



See Section 08 PREPARED LEAD

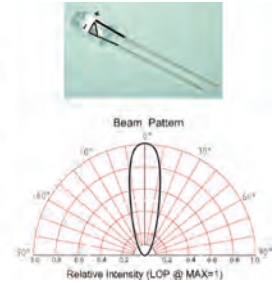
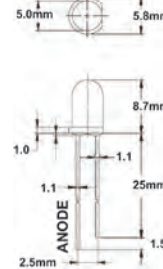


→ LEDs and Photo-Optics

5MM NARROW

10→15 Degrees

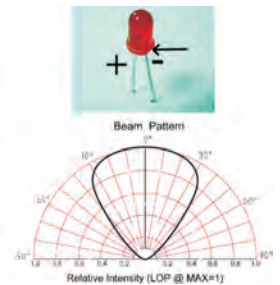
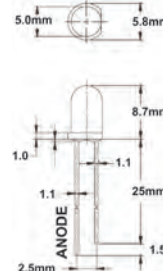
Colour	Voltage	Luminance (mcd)	Code
Red	1.9 - 2.5	2000 - 4500	LED524RD
Red	1.9 - 2.5	8000 - 11000	LED581RD
Orange	1.9 - 2.5	2000 - 4500	LED524OR
Yellow	1.9 - 2.5	2000 - 4500	LED524YL
Yellow	1.9 - 2.5	8000 - 11000	LED581YL
Blue/Green	2.9 - 3.5	8000 - 11000	LED581BG
Green	2.9 - 3.5	8000 - 11000	LED581GN
Blue	2.9 - 3.5	2000 - 4500	LED524BLU
Blue	2.9 - 3.5	6000 - 9000	LED569BLU
White	2.9 - 3.5	4000 - 7000	LED547WH
White Warm	2.9 - 3.5	6000 - 9000	LED569WWH
White	2.9 - 3.5	10000 - 12000	LED51012WH
White	2.9 - 3.5	15000 - 18000	LED51518WH
White	2.9 - 3.5	16000 - 21000	LED51621WH



5MM WIDE

40→50 Degrees

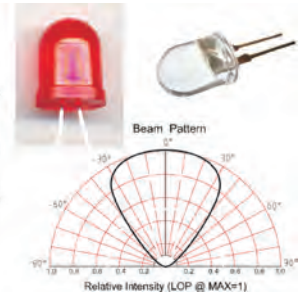
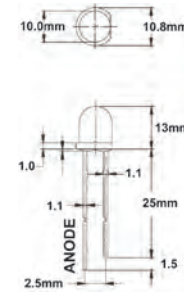
Colour	Voltage	Luminance (mcd)	Code
Red	1.9 - 2.5	2000 - 3000	LED523RD
Yellow	1.9 - 2.5	2000 - 3000	LED523YL
Orange	1.9 - 2.5	1000 - 2000	LED512OR
Amber	1.9 - 2.5	1000 - 2000	LED512AMB
Green	2.9 - 3.5	4000 - 5000	LED545GN
Blue	2.9 - 3.5	2000 - 3000	LED523BLU
White	2.9 - 3.5	2000 - 3000	LED523WH
White	2.9 - 3.5	5000 - 7000	LED557WH



10MM LARGE

30→40 Degrees

Colour	Voltage	Luminance (mcd)	Code
Red	1.9 - 2.5	2000 - 4500	LED1024RD
Red	1.9 - 2.5	8000 - 11000	LED1081RD
Orange	1.9 - 2.5	2000 - 4500	LED1024OR
Yellow	1.9 - 2.5	2000 - 4500	LED1024YL
Yellow	1.9 - 2.5	8000 - 11000	LED1081YL
Green	1.9 - 2.5	500 - 2500	LED1002GN
Green	2.9 - 3.5	6000 - 9000	LED1069GN
Blue	2.9 - 3.5	2000 - 4500	LED1024BLU
Blue	2.9 - 3.5	6000 - 9000	LED1069BLU
White	2.9 - 3.5	4000 - 7000	LED1047WH
White	2.9 - 3.5	8000 - 11000	LED1081WH

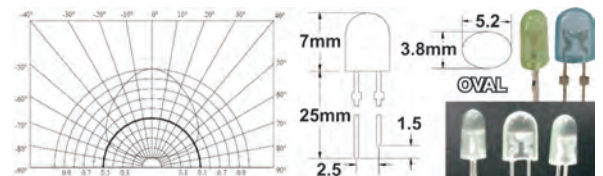


5MM OVAL

110→120 Degrees

OVAL TYPE FOR OUT DOOR USE

Colour	Voltage	Luminance (mcd)	Code
Red	1.9 - 2.2	400 - 500	LED50VRD
Green	3 - 3.6	2000 - 2400	LED50VGN
Blue	3 - 3.6	500 - 700	LED50VBLU
White	3 - 3.6	2000 - 2500	LED50VWH

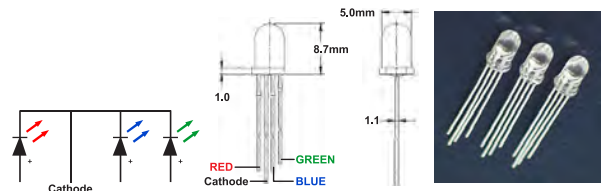


5MM MULTI

40→50 Degrees TRI-COLOUR LED

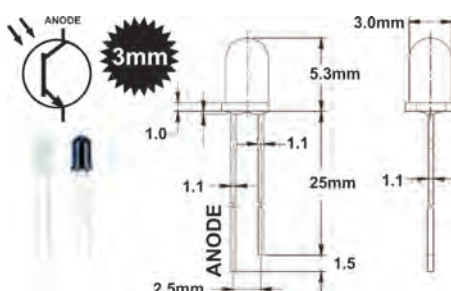
RED, GREEN, BLUE

Colour	Voltage	Luminance (mcd)	Code
Red, Green, Blue	1.9 - 2.5 (R), 2.9 - 3.5 (G), 2.9 - 3.5 (B)	2000 - 4500 (R), 7000 (G), 4000 - 7000 (B)	LED5RGB9



3MM PHOTO TRANSISTOR RECEIVER

Infra-Red, etc.
Vce Max 5V I dark 100µA I light 20mA



BLACK LENS

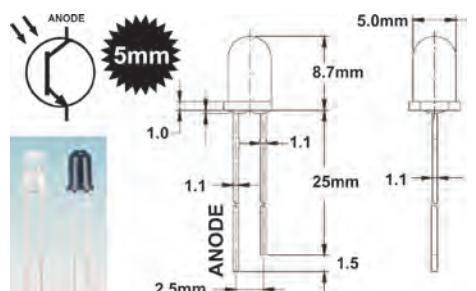
Code
IRR34D

CLEAR LENS

Code
IRR34C

5MM PHOTO TRANSISTOR RECEIVER

Infra-Red, etc. Vce
Max 5V I dark 100µA
I light 20mA



BLACK LENS

Code
IRR53D

CLEAR LENS

Code
IRR53C



↓ Valve Tubes

Sovtek & Electro-Harmonix

Sovtek & Electro-Harmonix have been a source of general replacement valves for the repairman for decades. Some old and popular tubes have remained in stock for radio restorers, hobbyists, etc.



VALVE SUBSTITUTIONS

Check for substitutions as our range covers most general purpose tubes. eq* (equivalent) are suggestions only.

300B Electro-Harmonix GOLD

TRIODE POWER - MATCHED PAIR

"The BEST 300B in the world!!!"
Ceramic base. Gold plated grid. Classic large shoulder bottles 24Hr burn-in matching pairs Best specifications achieved 8 course directly heated filament 40 Watt gold plate. UX4 Base



Base	Code
UX4	300B-EH-PL

6550-EH Electro-Harmonix

Platinum Matched Pair

The 6550EH offers excellent linearity, power handling capacity, heat dissipation. Four-pillar construction and mica spacers maintain a rugged mechanical reliability. Classic tone is sustained at a prolonged, high output. New leaded glass compound is utilized to maintain vacuum integrity



Base	Code
Octal	6550EHPL

6550-WE MATCHED PAIR

This valve has been engineered for the discerning audiophile or musician. Receiving rave reviews for its superior tone and sonics. Sold only in matched pairs. The "Platinum" matching service is done in factory and consists of 24Hr tube burn in! Exceptional.



Base	Code
Octal	6550WE

6550C-SV-PL Svetlana

Platinum Matched Pair

Consistent, solid and reliable. The construction of gold-plated molybdenum alloy grid, carbon-coated screen grid makes it one of the best current production 6550 on the market. Audio Research uses them, as does Marshall. Lots of power and plenty of headroom



Base	Code
Octal	6550CSVPL



NEW VALVES WITH NEW TECHNOLOGY

A new and improved range of tubes have arrived from Russia and claim to rival Mullards and better the classics of old. New materials and technology make these new release valves the best in the world.



www.sovtek.com

PLATINUM MATCHED PAIRS - 24HR BURN-IN

6L6-GC-SV-PL Svetlana

PLATINUM MATCHED PAIR/QUAD

Looking for the classic sound for your vintage amplifier restoration? GOLD-Plated molybdenum alloy grid and Carbon coated screen grid makes this one of the best, most reliable, efficient, and classic sounding 6L6s Very deep and rich sounding classic.

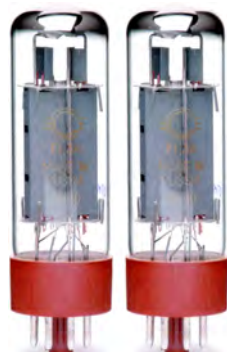


Base	Code
Octal	6L6GCSVPL
Octal	QD6L6GCSVPL

EL34-SV-PL Svetlana

Platinum Matched Pair/Quad

Smooth midrange sound with plenty of headroom. Gold-plated molybdenum alloy grid and carbon-coated screen grid makes it one of the best current production matched pair EL34's on the market. It's a sturdy tube that can handle heavy use, excellent replacement for Marshall amplifiers, etc.



Base	Code
Octal	EL34SVPL
Octal	QDEL34SVPL

KT88-SV-PL Svetlana

Platinum Matched Pair

Reminiscent to Genalex KT88 Gold Lion. Gold-plated molybdenum alloy grid and carbon-coated screen grid for power. This KT88 also substitutes most 6550s! It provides a more pronounced bass and is a much more solid tube.



Base	Code
Octal	KT88SVPL



KT90-EH Electro-Harmonix

Platinum Matched Pair

The Electro Harmonix KT90 is a great sounding tube. The low end is not boomy at all, but quick and responsive. Female vocals will be noticed with tube. Very realistic mids with a sweet top. Highly recommended.



Base	Code
Octal	KT90EH



↓ Valve Listing

6550 / KT88 Sovtek

Triple Carbonate Oxide Cathode operates at full power for extended periods without failure or compression. Increased output power, higher gain and precise tube matching with minimal drift. Also maintains an impressive tonal clarity. Suit premium Audiophile HiFi systems or the on-road reliability for the musician!

Base Code
Octal KT88



6CA7 / EL34 (25W)

Electro-Harmonix

"Very close sonics to a Mullard"
Extremely musical with sound that is rich, smooth, highly detailed without being edgy. Sweet mids, deep bass, extended highs. Overall, a well balanced valve. Electrically eq. big-bottle 6CA7

Base Code
Octal EL34EH



6L6-WGC / 5881

Sovtek 5881

Most reliable 6L6 available Extremely constant production Popular in Marshall's and others Rigid Mil. Spec. output tube 6.3V@0.88A 250Vx73mA Plate Popular for its choice in tone Warm round tone that "sweetens"

Base Code
Octal 6L6WGC



6CA7 / EL34 (25W) - BIG BOTTLE

Electro-Harmonix

Designed to exacting specifications of a Philips 6CA7, this classic tetrode retains a high detail tone with military reliability as a direct EL34 replacement with higher headroom, etc. Larger bottle tube

Base Code
Octal 6CA7EH



6L6-WXT+

Sovtek High-Power 20% higher output than 5881-WXT Mica spacers and metal springs. No rattle microphonics, etc. Superior overall tone tube. Suit or guitarists or HiFi Excellent upgrade reliability.
eq.* 5881 6BG6 6L6GC/GT KT66

Base Code
Octal 6L6WXT



6BQ5 / EL84

O/P PENTODE AF 10W

Vh 6.3, Ih .75, Va 250, Pa 2.2, 10W HiFi AF amp VOX AC30 (Beetles). Popular Sovtek tube As used in Fender, Crate and Peavy.

Base Code
B9A 6BQ5



6L6-EH CLASSIC

Electro-Harmonix

Super updated version of the 6L6. Modelled on "RCA Blackplate" classic. Improved grid/plate for high power. Mica spacers & metal springs for no more rattling microphonics.
eq.* 5881 6BG6 6L6GC/GT

Base Code
Octal 6L6EH



6BQ5 / EL84-EH

Electro-Harmonix

Extremely musical with a sound that is rich, smooth, detailed without being edgy. Beautiful! It is the perfect EL84 for any vintage equipment & a sure way to improve the performance of even modern audiophile systems

Base Code
B9A* EL84EH



6L6-GC KT66 Tung-Sol

AUDIOPHILE Bluesbreaker

Brand new production version
"Woman tone at its finest!"
Rugged 6L6-GC in a bottle.
Big and open. Solid lows.
Beautiful Smooth treble.
Top notch audio quality.
Looks the part too!

Base Code
Octal KT66TUN



6SN7-GT

Sovetek

TWIN TRIODE AF Vh 6.3, Ih .6, Va 250, Ia .009
Premium Q AF GP Valve
eg. suit driver for 6L6. eq.*
CV181, 1986, 1988, 278, ECC32,
E1606, VT231, 12SN7.

Base Code
Octal 6SN7



6SN7-EH

Electro-Harmonix

The 6SN7EH is a beautiful sounding tube, on par with RCA's red base 5692. It maintains a linear response while being able to accept a full voltage. Vintage amp users and audiophiles will be thrilled to find that a superior quality, ultra low noise replacement finally exists.

Base Code
Octal 6SN7EH





↓ Valve Listing

6AU6

WIDEBAND PENTODE

Sharp-Cutoff Wideband Amplifier.
Suit AF, IF & RF Frequencies up to 50MHz.
USA General Electric JAN-6AU6WC
B7G Miniature 53x18mmØ
Equiv. CV2524, CV8403, EF94, 6J4, 6P2

Base Code
B7G 6AU6WC



6C45 Pi-EH-G Electro-Harmonix GOLD

GOLD GRID PLATE AUDIOPHILE TRIODE

Premium grade DC-80MHz bandwidth Very high mutual transconductance Gold Plated Pins and Grid/plate Suit premium grade HiFi equipment as a high current tube driver, etc. 3A167M, CV5112, WE437A, EC8020 Mu=50, Rp=1K, gm=50mA/V, Plate=7W

Base Code
B9A 6C45PIEHG



6DJ8 6922

Premium version Electro-Harmonix Longer life better performance Subs 6DJ8 E88 ECC88

Base Code
B9A 6922EH



GOLD PIN

Base Code
B9A 6922EHG

6H30 Pi

Sovtek "Super-Tube"

Refined Super linear, military spec. Mid MU dual triode preamp / driver. Sovtek now supply this special OEM tube Suit "Supertube" Balanced Audio Technology As used in the B.A.T. VK-50SE pre-amplifiers Will replace 6H30, 6N30, 6N30P only NOT a direct sub for 6922 ECC88 6DJ8

Base Code
B9A* 6H30P



6SL7 Sovtek

The Sovtek 6SL7 is a very capable replacement for any 6SL7 tube Good reliability from Sovtek High-MU twin-triode as used in coupling circuits / phase, etc.

Base Code
Octal 6SL7



7591A

AMPEG OWNERS REJOICE

Genuine Electro-Harmonix "Smooth, yet punchy, with a sweet harmonix finish!"

Base Code
Octal 7591A



12AT7 ECC81

Vh12.6, Ih.15, Va300, Pa2.5 Low noise dual triode. As used in Fender Amps. eq.* CV10662/455 CV8154/9859

Base Code
B9A* 12AT7



12AU7A 5814A

Vh12.6, Ih.15, Va300, Pa2.75 GP AF Low gain. eg. driver tube. eq.* 12AU7, 5814, 5963, 6067, 6189, 6680, 7489, 7730, B529,CV10323/10666/3900, ECC82/83, more.

Base Code
B9A* 12AU7A



12AX7 ECC83

12AX7 Electro-Harmonix

High gain, ultra low noise, Spiral filament for no hum. Suit Guitar amps, etc.

Base Code
B9A* 12AX7EH



12AX7 Sovtek

Special Low Noise Edition "...very linear, large full sound stage, very musically detailed...". Classic large plate Mullard design.Excellent HiFi replacement/upgrade

Base Code
B9A* 12AX7LPS



12AX7 Svetlana

New Xpo-Pul Reflector made tube Solid construction build quality Not the older "C" type but a new Upgraded to a far better version

Base Code
B9A 12AX7SVET



↓ Rectifiers

RECTIFIER VALVES

6CA4 Electro-Harmonix

Full Wave Rectifier Valve CV3996 CV5072 EZ81 U709 Vh=6.3V Ih=1mA Ir=150mA 350-0-350 RMS

Base Code
B9A 6CA4

5AR4 GZ34

550-0-550 max

Base Code
Octal 5AR4

5U4-GB Electro-Harmonix

Audio quality rectifier Full Wave Rectifier 450-0-450 *5AS4, 5U4, CV575, VT244, VU71

Base Code
Octal 5U4GB

5Y3-GT Sovtek rectifier

An indirectly heated diode. Suitable for Audio quality 350-0-350 RMS. 140mA Max. 5V @ 2mA Filament

Base Code
Octal 5Y3GT





↓ Valve Cross-Reference

FULL VALVE LISTING

EXTRAS & SOME SUBSTITUTES

Below is a complete listing of our range including some additional rare tubes and also some substitute suggestions*



Base	Substitutions	Code
UX4	Matched Pair. Gold	300B-EH-PL
Octal	54KU GZ30/33/34/37 R52 U54 U77 +	5AR4
Octal	5A54, 5U4, CV375, VT244, VU71	5U4GB
Octal	Rectifier	5Y3GT
Octal	Matched Pairs. CV5220 KT88 KT90	6550WE
Octal	Matched Pairs. CV5220 KT88 KT90	6550EHPL
Octal	Matched Pairs. CV5220 KT88 KT90	6550CSVPL
B9A	E88, ECC88, 6DJ8	6922EH
B9A	E88, ECC88, 6DJ8 Gold Pins	6922EHG
B9A	EY88 10745	6AL3
Octal	6GK17	6AU4
B7G	CV2524, CV8403, EF94, 6J4, 6P2	6AU6WC
B9A*	6C16 ECF80 E80CF	6BL8
B9A	ECL82 6PL12	6BM8
B9A	6GB6 6P15 EL84 E84L N709	6BQ5
B9A*	ECC180	6BQ7
B9A	6F19 6F26 EF85 W719	6BY7
B9A	3A167M, CV5112, WE437A, EC8020	6C45PIEHG
B9A	CV3996, CV5072, EZ81, U709	6CA4
Octal	EL34 Big Bottle	6CA7EH
B9A	EL86	6CW5
B9A	EF183 EF811 6F25 6F29	6EH7
B9A	6DJ8 ECC88 ECC189 Use 6922	6ES8
B6G	TV Triode	6GK5
B9A*	BAT VK-50SE Use Only	6H30P
B9A*	ECF802 PCF802	6JW8
Octal	KT66 EL37 5881 6BG6 Classic Blackplate	6L6EH
Octal	KT66 EL37 5881 6BG6 Sweet Classic	6L6WGC
Octal	KT66 EL37 5881 6BG6 High-Power	6L6WXT
Octal	Matched Pair. Platinum	6L6GCSVPL
Octal	6113 6H9M 6N9C 6N9S CV1985 VT229	6SL7
Octal	CV1986 CV1988 VT231, ECC32 CV181 CV1986 CV1988 VT231	6SN7
Octal	Premium version. RCA 5692	6SN7EH
B9A*	ECF201	6U9
Octal	8571, 6AY5, 6P6C, any 6L6, 7184 +	6V6EH
Octal	Ampeg.	7591A
B7G	12BC32 HBC90 HBC91	12AT6
B9A*	ECC81/801/S E81CC B152/309/739 +	12AT7
B9A*	ECC82/186/802/S B329/749 E82CC +	12AU7A
B9A*	6L13 B339 B759 ECC83 ECC803 +	12AX7LPS
B9A*	6L13 B339 B759 ECC83 ECC803 +	12AX7EH
B9A	Xpo-Pul Reflector Version	12AX7SVET
B9A*	EF86 6267 6F22 CV10098 CV2901 Z729	EF86EH
Octal	EL34 6CA7 CV1741	EL34EH
Octal	EL34 Matched pair. 6CA7	EL34SVPL
B9A*	EL84 6BQ5 6P15 CV8069 N709	EL84EH
Octal	6L6-GC, CV1075, CV321, VT75 Tung-Sol	KT66TUN
Octal	6550 KT90 CV5220	KT88
Octal	Matched Pair. Platinum	KT88SVPL
Octal	KT88, 6550, CV5220, Matched Pair. Platinum	KT90EH

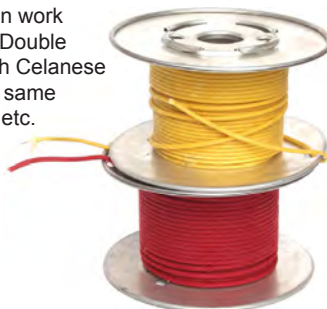
Substitutions for suggestion only! Check Valve Specifications 1st. For some data, please click to www.wescomponents.com/valves
 * Denotes: Short Version Valve that Fits under our VS915 Shield

↓ Valve Wiring

VINTAGE CLOTH COVERED WIRE

22 AWG SOLID CORE

Authentic wire for vintage restoration work and high temperature applications. Double woven cloth jacket, wax coated, with Celanese inner braiding. Real Deal. From the same manufacturer that supplies Fender, etc. Supplied on 50ft spools.



Colour	Length	Code
Black	15M	PBW50BK
Blue	15M	PBW50BU
Brown	15M	PBW50BN
Red	15M	PBW50RD
White	15M	PBW50WH
Yellow	15M	PBW50YL

↓ Valve Components

PPL - "ORANGE DROPS" POLY CAPS 600VAC

"Orange Drops" is the nickname for Spragues classic valve type film caps due to their colour and shape. The all new 715 polypropylene film capacitors build on this reputation. Suitable for any Guitar and home HiFi valve amplifier restoration. The 715's are popular because they work well and have a nice clean smooth tone compared to the muddy sounding and unstable old hollo-wax paper caps originally used. These new polypropylene film caps have much better leakage characteristics too. They will probably outlive the amplifier and the musician!

Value	Code
.001µF	.001PPL600
.0015µF	.0015PPL600
.0022µF	.0022PPL600
.0033µF	.0033PPL600
.0047µF	.0047PPL600
.01µF	.01PPL600
.015µF	.015PPL600
.022µF	.022PPL600
.047µF	.047PPL600
.068µF	.068PPL600
.1µF	.1PPL600
.15µF	.15PPL600
.22µF	.22PPL600
.47µF	.47PPL400



NEW! Just arrived! SILVER-MICA. See Section 2 COMPONENTS

ATM - "ATOM" AXIAL ELECTROLYTICS

Sprague Type TVA Atom Aluminum Tubular Axial Electrolytic Capacitors. Excellent sonics For Tube Guitar Amps and audiophile home Hi-Fi. These sturdy, axial lead, aluminium electrolytic capacitors are preferred by most craftsmen for authentic vintage guitar amp and hi-fi restorations. Many of the best sounding classic guitar amps by Fender, Ampeg, Magnatone, Valco and many others used Sprague Atom series electrolytics.

Value	Volts	Code
8µF	150V	8ATM150
8µF	450V	8ATM450
10µF	150V	10ATM150
10µF	500V	10ATM500
16µF	475V	16ATM475
20µF	500V	20ATM500
20µF	600V	20ATM600
25µF	25V	25ATM25
25µF	50V	25ATM50
30µF	500V	30ATM500
40µF	500V	40ATM500
50µF	50V	50ATM50
80µF	450V	80ATM450
100µF	100V	100ATM100
100µF	350V	100ATM350
100µF	450V	100ATM450
250µF	25V	250ATM25



F&T DUAL VALUE RADIAL CAPS

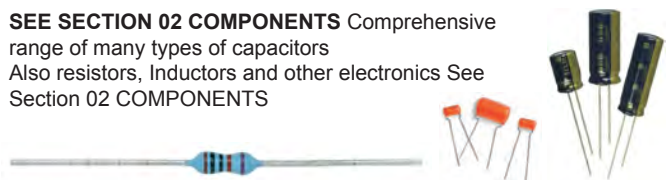
F&T and LCR direct replacement type caps, dual value electrolytic aluminium cans. Premium quality made in Germany or UK.

Value	Volts	Size	Code
32µF+32µF	500V	52x35Ø	FT32X32
50µF+50µF	250V	40x30mmØ	100C250
50µF+50µF	500V	52x35Ø	FT50X50
100µF+100µF	500V	66x35Ø	FT100X100
225µF+25µF	385V	40x40mmØ	250C385
400µF	385VDC	75x35mmØ	400C385



MORE CAPACITORS

SEE SECTION 02 COMPONENTS Comprehensive range of many types of capacitors Also resistors, Inductors and other electronics See Section 02 COMPONENTS





↓ Valve Sockets

BASE "B9A" "NOVEL" - PCB MOUNT

9 pin valve socket with ceramic base to PCB solder pins.

Base	Code
B9A	VS901



BASE "B9A" + SHIELD

9 pin valve socket B9A ceramic base to solder TAGs Shield cap 40-50mm tall tubes With spring loading to hold Valves secure for transport. Ideal guitar amp solution.

Genuine Fender part OEM

Base	Code
B9A	VS915



BASE "OCTAL" - PCB MOUNT

8 pin valve socket with ceramic base to PCB solder pins. KT88, 6550, 6L6, and others...standard Octal.

Base	Code
Octal	VS801



BASE "OCTAL" - CHASSIS MOUNT

Ceramic Heat Resistant 8x Tinned to solder TAGs Screw base to Chassis 25mmØ +Bracket 40mm

Base	Code
Octal	VS803
Octal	VS802



BASE "OCTAL" - CHASSIS MOUNT DELUXE

DELUXE OVER-SIZED 8 pin "Octal" Base Ceramic heat resistant Dual piece contacts to solder TAGs.

PREMIUM 40x56mm

Base	Code
Octal	VS812



↓ Valve Clamp

VALVE RETAINERS

Spring loaded retainer Excellent solution for guitar amplifiers, etc. Ensures a firm contact so large valves don't shift. "C" is a minimum height. (+%50max.)



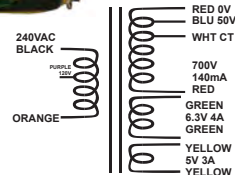
"A"	"B"	"C"	Code
35	22	75mm	VRET20
42	22	80mm	VRET10
45	22	90mm	VRET30

↓ Valve Transformers

FENDER POWER TRANSFORMER

022798 SUIT 50W

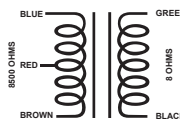
240Vac Power Transformer Suits Fender Guitar amplifiers Mono 40W using 6L6 Valve pair Models Vibroverb, Bandmasters, Super reverb, Pro Reverb, etc. Also Bassman Heads, etc...



Size	Code
105x88x89mm	NSC022798T

FENDER OUTPUT TRANSFORMER

OEM	Fender
Power	25W
Primary	8.5KΩ +CT
Secondary	8 Ω
Size	70x60x55mm
Code	NSC041318T

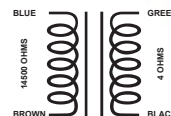


FENDER COUPLING TRANSFORMER

4Ω - 14.5KΩ Fender: 022921 Reverb Driver Transformer suit most guitar amplifiers with analogue reverb. Marshall JCM800-2205/10. Fender 125A20B Also suitable as 3.5W SE output.



Size	Code
45x35x40mm	NSC022921



FENDER CHOKE

SUITS FENDER 125CIA

Replacement choke for Twin, Super, Dual Showman, Primary wind only (Choke) High temperature wires



Size	Code
60x50x45mm	NSC125C1A

MARSHALL POWER TRANSFORMERS

MARSHALL REPLACEMENT TYPES

Built to original specifications, correct ratios and lots of iron! Suits the classic JCM800's, etc.

OEM	17D030	17D040
Power	50W	100W
Voltage	690V	350V
Current	0.15A	0.3A
Code	MPT50	MPT100



MARSHALL OUTPUT TRANSFORMERS

MARSHALL REPLACEMENT TYPES

Built to original specifications, correct ratios and lots of iron! EL34's, JCM800's, not JCM900.

OEM	17D010	17D020
Power	50W	100W
Primary	3.8K Ω	1.9K Ω
Secondary	8 Ω	8 Ω
Code	MOP50	MOP100



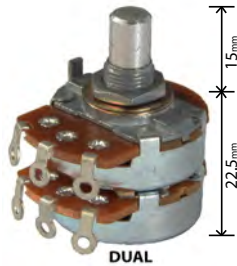


↓ Potentiometers

ALPHA DUAL POTENTIOMETERS

1/4" Solid Shaft, 24mm Body, Solder Lugs, 1/2 Watt Rated. Fits 3/8" Hole. Comes With Hex Nut and Washer.

Type	Value	Code
Dual Linear	100K	V30-100KBX2
Dual Log	1M	V30-1MAX2

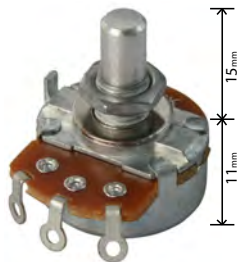


ALPHA POTENTIOMETERS

GUITAR AMP POTENTIOMETER

Ultra high quality dampened rotational movement provides very smooth feel throughout turn. Audio/Log pots are typically used for volume control, and Linear pots are typically used for effects. 1/4" Solid Shaft, 24mm Body, Solder Lugs, 1/2 Watt Rated. Fits 3/8" Hole. Comes With Hex Nut and Washer.

Type	Value	Code
Linear	5K	V30-5KB
Linear	10K	V30-10KB
Linear	25K	V30-25KB
Linear	100K	V30-100KB
Linear	250K	V30-250KB
Log	100K	V30-100KA
Log	250K	V30-250KA
Log	500K	V30-500KA
Log	1M	V30-1MA



CTS POTENTIOMETERS

NYLON SHAFT

Smooth action and top quality potentiometer. 24mm Body, Solder Lugs, 1/2 Watt Rated. Fits 3/8" Hole, 1/4" Solid nylon spindle shaft for the set screw or push-on knobs. Comes With Hex Nut and Washer.

Type	Value	Code
Linear	100K	V32100KB
Log	10K	V32-10KA
Log	250K	V32-250KA
Log	500K	V32-500KA
Log	1M	V32-1MA
Reverse Log	50K	V32-50KRA
Reverse Log	3M	V323MRA



CTS POTENTIOMETERS WITH PUSH/PULL

CTS PUSH-PULL SWITCH

Single Pole switch. 1/4" Shaft with 1.5mm centre cut, 24mm Body, Solder Lugs, 1/2 Watt Rated, 125Vac 3A. Fits 3/8" Hole. Comes With Hex Nut and Washers.

Type	Value	Code
Log	10K	V34-10KA
Log	1M	V34-1MA



VOLUME POTS

POTENTIOMETERS

1/4" 6.35mm Half Moons Cut shaft to length Linear & Log types See Section 02 COMPONENTS

SWITCHED POTS Pull/Push switch

See Section 02 COMPONENTS



↓ Plug Jacks 1/4"

1/4" MONO JACK VINTAGE SOLDER

Mono input jack, 4 Solder terminals. Switched. Vintage Type with metal ferrule.

Type	Mounting	Pins	Code
Mono	Panel	4 Pins	BJ101



1/4" MONO JACK VINTAGE PCB

Mono input jack, 4 PCB Mount terminals. Switched. Vintage Type with metal ferrule.

Type	Mounting	Pins	Code
Mono	PCB	4 Pins	BJ121



1/4" STEREO JACK VINTAGE PCB

Stereo input jack, 6 PCB mount terminals. Switched. MXR replacement jack.

Type	Mounting	Pins	Code
Stereo	PCB	6 pins	BJ124



1/4" MONO JACK MODERN MARSHALL SOLDER

Mono input jack, 4 Solder terminals. With black Plastic nut.

Type	Pins	Mounting	Code
Mono	4 Pins	Panel	BJ102



1/4" MONO JACK MODERN MARSHALL PCB

Mono input jack, 4 PCB mount terminals.

Type	Pins	Mounting	Code
Mono	4 Pins	PCB	BJ103



1/4" STEREO JACK MODERN MARSHALL PCB

Stereo input jack, 6 pin PCB board connector.

Type	Mounting	Pins	Code
Stereo	PCB	6 Pins	BJ104



1/4" MONO JACK PCB

Fender® PCB Mount jack. Mono 4 pins.

Type	Mounting	Pins	Code
Mono	PCB	4 Pin	BJ106



1/4" STEREO JACK PCB

Fender® PCB Mount jack. Stereo 9 pins.

Type	Mounting	Pins	Code
Stereo	PCB	9 Pins	BJ107



1/4" SWITCHCRAFT OPEN MONO JACK

1/4" female. Open circuit. Can be used as replacement in Fender®, external speaker/guitar output/effects pedals.

Type	Mounting	Code
Mono	Panel	SCJ11



1/4" SWITCHCRAFT SHORTING MONO JACK

1/4" female. Shorting type. Can be replace Fender® input jack.

Type	Mounting	Code
Mono	Panel	SCJ12A



1/4" SWITCHCRAFT OPEN STEREO JACK

1/4" female. Stereo double open circuit. Can be used for effect pedal input.

Type	Mounting	Code
Stereo	Panel	SCJ12B





↓ Classic knobs

KNOBS "CHICKEN HEAD"

As used on Fender Amps, etc. 1/4"
6.35mm Half-Moon Grub screw

Colour	Code
Red	KB010
White	KB050
Blue	KB100
Yellow	KB150
Ivory	KB200
Black	KB250



KNOBS

MATCHING EQUIPMENT STYLE

6.35mm shaft, Grubscrew fixing
Same style, different sizes;

Size	Code
19x16mmØ	KB7760
16x20mmØ	KB7762
20x24mmØ	KB7764
19x35mmØ	KB7766



6mm Star Push-On

Size	Code
14x15mmØ	KB7770

KNOBS

PUSH ON STYLE

6.35mm shaft, 18x20mmØ

Colour	Code
RED	KB7705
YELLOW	KB7713
BLACK	KB7707
WHITE	KB7715
BLUE	KB7709
GREY	KB7717



KNOBS

SKIRT WITH NUMBER 1-10

6.35mm shaft Grubscrew
fixing 23.5x36mmØ

Code
KB7549

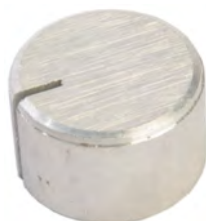


KNOBS

BRUSHED ALUMINIUM

High quality brushed aluminium finish,
engraved pointer Suitable for Hi-Fi
projects 6.35mm shaft, 14x22mmØ

Code
KB7022



KNOBS

BLACK PLASTIC ALUMINIUM INSERT

Code
KB7740



↓ Amplifier Switches

ROCKER SWITCH

SNAP-IN 250VAC

Hole	Illuminated	Current	Type	Code
20x13mm	No	4A	DPST	SW200
20x13mm	No	6A	SPST	SW210
20x13mm	No	6A	SPDT	SW215
20x13mm	Green	4A	DPST	SW205
20x22mm	No	5A	DPST	SW202
25x25mm	No	10A	DPST	SW203
30x22mm	No	10A	DPDT	SW220
30x22mm	Red	10A	DPDT	SW225



TOGGLE SWITCH

SPST

"Standard" Toggle 1.5A (250Vac) max.

Code
SWT121

DPST

Code
SWT123

DPDT

Code
SWT125



TOGGLE SWITCH

CENTRE OFF DPDT

Heavy duty toggle Screw terminal
x6 Double pole Double throw
Centre OFF Max. 3A 250V

Code
SWT127



SPST CARLING TOGGLE SWITCHES

SPST TOGGLE

Power & standby switches that can
be used as replacement in Fenders®.
250Vac 3A. Fits Ø11.8mm hole.

Code
SWT110



SPST CARLING FOOTSWITCH

SPST FOOTSWITCH

Can be used in Fenders®, etc. reverb/trem/channel
switching pedals. 250Vac 3A. Fits Ø11.8mm hole.

Code
SWT110P



DPDT FOOTSWITCH

Used in many effects and switching units.
250Vac 1A (125Vac 3A). Fits Ø11.8mm hole.

Code
SWP316

FOOT SWITCH

DPDT TOGGLE

Push-ON / Push-OFF
Kick 6A-250Vac

Code
SWP328

TPDT TOGGLE

Triple pole Kick

Code
SW3PDT



STANDARD DPDT SLIDE SWITCH

STANDARD DPDT SLIDE

Standard DPDT (ON-ON) Low voltage slide
switch. Can Replace bright switch in Fenders®.

Code
SW30

