

MPSA06

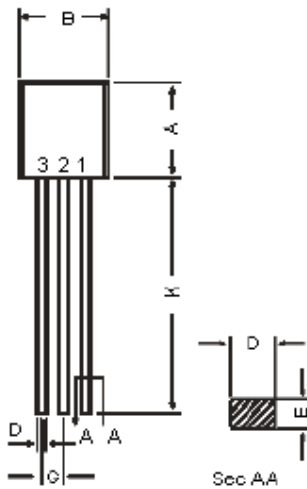
NPN Silicon Transistor



Feature:

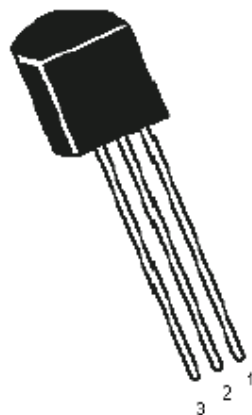
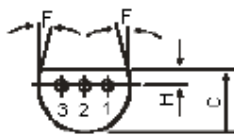
- General Purpose NPN Silicon Planar Epitaxial Amplifier Transistor.

TO-92 Plastic Package



| Dimensions | Minimum | Maximum |
|------------|---------|---------|
| A | 4.32 | 5.33 |
| B | 4.45 | 5.20 |
| C | 3.18 | 4.19 |
| D | 0.41 | 0.55 |
| E | 0.35 | 0.50 |
| F | 5° | |
| G | 1.14 | 1.40 |
| H | 1.14 | 1.53 |
| K | 12.70 | - |

Dimensions : Millimetres



Pin Configuration:

1. Collector
2. Base
3. Emitter



MPSA06

NPN Silicon Transistor



Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$ unless otherwise specified)

| Parameters | Symbol | Value | Units |
|--|-------------------|-------------|----------------------------|
| Collector Emitter Voltage | V_{CEO} | 80 | V |
| Collector Base Voltage | V_{CBO} | | |
| Emitter Base Voltage | V_{EBO} | | |
| Collector Current Continuous | I_C | 500 | mA |
| Power Dissipation at $T_a = 25^\circ\text{C}$ Derate Above 25°C | P_D | 625 | mW |
| Power Dissipation at $T_c = 25^\circ\text{C}$ Derate Above 25°C | | 5.0 | mW/ $^\circ\text{C}$ |
| Operating and Storage Junction Temperature Range | T_j, T_{stg} | -55 to +150 | $^\circ\text{C}$ |
| Thermal Resistance | | | |
| Junction to Ambient | $R_{th(j-a)} (1)$ | 200 | $^\circ\text{C}/\text{mW}$ |
| Junction to Case | $R_{th(j-c)}$ | 83.3 | |

(1) $R_{th(j-a)}$ is measured with the device soldered into a typical printed circuit board.

Electrical Characteristics ($T_a = 25^\circ\text{C}$ unless otherwise specified)

| Parameters | Symbol | Test Condition | Minimum | Maximum | Units |
|---------------------------------|---------------|---|------------|---------|---------------|
| Collector Emitter Voltage | V_{CEO}^* | $I_C = 1\text{mA}, I_B = 0$ | 80 | - | V |
| Emitter-Base Voltage | V_{EBO} | $I_E = 100\mu\text{A}, I_C = 0$ | 4.0 | - | |
| Collector-Cut off Current | I_{CBO} | $V_{CB} = 80\text{V}, I_E = 0$ | - | 0.1 | μA |
| Collector-Cut off Current | I_{CEO} | $V_{CE} = 60\text{V}, I_B = 0$ | - | | |
| Collector-Emitter (sat) Voltage | $V_{CE(sat)}$ | $I_C = 100\text{mA}, I_B = 10\text{mA}$ | - | 0.25 | V |
| Base-Emitter (on) Voltage | $V_{BE(on)}$ | $I_C = 100\text{mA}, V_{CE} = 1\text{V}$ | - | 1.2 | |
| DC Current Gain | h_{FE} | $V_{CE} = 1\text{V}, I_C = 10\text{mA}$ $V_{CE} = 1\text{V}, I_C = 100\text{mA}$ | 100 100 | - | - |
| Dynamic Characteristics | | | | | |
| Transition Frequency | f_T^{**} | $I_C = 10\text{mA}, V_{CE} = 2\text{V}$ $f = 100\text{MHz}$ | 100 | - | MHz |

*Pulse Test : pulse width $\leq 300\mu\text{s}$, duty cycle $\leq 2\%$.

** f_T is defined as the frequency at which $|h_{fe}|$ extrapolates to unity.



MPSA06

NPN Silicon Transistor



Specifications

| V_{CE0} (V) | V_{CBO} Maximum (V) | I_C (A) | h_{FE} Minimum at $I_C = 100\text{mA}$ | P_{tot} (mW) | Package | Part Number |
|------------------|-----------------------------|--------------|--|-------------------|---------|-------------|
| 80 | 80 | 0.5 | 50 | 625 | TO-92 | MPSA06 |

MPSA06

NPN Silicon Transistor



Notes:

International Sales Offices:

 **AUSTRALIA - Farnell**
Tel No: ++61 1300 361 005
Fax No: ++61 1300 361 225


 **FINLAND - Farnell**
Tel No: ++358 9 560 7780
Fax No: ++358 9 345 5411

 **ITALY - Farnell**
Tel No: ++39 02 93 995 200
Fax No: ++39 02 93 995 300

 **SPAIN - Farnell**
Tel No: 901 20 20 80
Fax No: 901 20 20 90

 **AUSTRIA - Farnell**
Tel No: ++43 662 2180 680
Fax No: ++43 662 2180 670

 **FRANCE - Farnell**
Tel No: ++33 474 68 99 99
Fax No: ++33 474 68 99 90

 **MALAYSIA - Farnell-Newark**
Tel No: ++60 3 7873 8000
Fax No: ++60 3 7873 7000

 **SWEDEN - Farnell**
Tel No: ++46 8 730 50 00
Fax No: ++46 8 83 52 62

 **BELGIUM - Farnell**
Tel No: ++32 3 475 2810
Fax No: ++32 3 227 3648

 **GERMANY - Farnell**
Tel No: ++49 89 61 39 39 39
Fax No: ++49 89 613 59 01

 **NETHERLANDS - Farnell**
Tel No: ++31 30 241 7373
Fax No: ++31 30 241 7333

 **SWITZERLAND - Farnell**
Tel No: ++44 204 64 64
Fax No: ++44 204 64 54


 **BRAZIL - Farnell-Newark**
Tel No: ++55 11 4066 9400
Fax No: ++55 11 4066 9410

 **HONG KONG - Farnell-Newark**
Tel No: ++852 2268 9888
Fax No: ++852 2268 9899

 **NEW ZEALAND - Farnell**
Tel No: 0800 90 80 80
Fax No: 0800 90 80 81

 **UK - Farnell**
Tel No: ++44 8701 200 200
Fax No: ++44 8701 200 201

 **CHINA - Farnell-Newark**
Tel No: ++86 10 6238 5152
Fax No: ++86 10 6238 5022

 **HUNGARY - Farnell**
Tel No: ++44 870 1200 208
Fax No: ++44 870 1200 209

 **NORWAY - Farnell**
Tel No: 800 146 70
Fax No: 800 146 76

 **UK - CPC**
++44 8701 202 530
++44 8701 202 531

 **CZECH REPUBLIC - Farnell**
Tel No: ++44 870 1200 208
Fax No: ++44 870 1200 209

 **INDIA - Farnell**
Tel No: ++44 870 1200 208
Fax No: ++44 870 1200 209

 **PORTUGAL - Farnell**
Tel No: ++34 93 475 8804
Fax No: ++34 93 474 5288

 **USA - Newark**
Tel No: 800 463 9275

 **DENMARK - Farnell**
Tel No: ++45 44 53 66 44
Fax No: ++45 44 53 66 06

 **IRELAND - Farnell**
Tel No: ++353 1 830 9277
Fax No: ++353 1 830 9016

 **RUSSIA - Farnell**
Tel No: ++44 870 1200 208
Fax No: ++44 870 1200 209

 **EXPORT - Farnell**
Tel No: ++44 8701 200 208
Fax No: ++44 8701 200 209
For enquiries from all other markets

 **ESTONIA - Farnell**
Tel No: ++358 9 560 7780
Fax No: ++358 9 345 5411

 **ISRAEL - Farnell**
Tel No: ++180 937 0015
Fax No: ++180 937 0014

 **SINGAPORE - Farnell-Newark**
Tel No: ++65 6788 0200
Fax No: ++65 6788 0300

<http://www.farnell.com>
<http://www.newark.com>
<http://www.cpc.co.uk>

Disclaimer This data sheet and its contents (the "Information") belong to the Premier Farnell Group (the "Group") or are licensed to it. No licence is granted for the use of it other than for information purposes in connection with the products to which it relates. No licence of any intellectual property rights is granted. The Information is subject to change without notice and replaces all data sheets previously supplied. The Information supplied is believed to be accurate but the Group assumes no responsibility for its accuracy or completeness, any error in or omission from it or for any use made of it. Users of this data sheet should check for themselves the Information and the suitability of the products for their purpose and not make any assumptions based on information included or omitted. Liability for loss or damage resulting from any reliance on the Information or use of it (including liability resulting from negligence or where the Group was aware of the possibility of such loss or damage arising) is excluded. This will not operate to limit or restrict the Group's liability for death or personal injury resulting from its negligence. SPC Multicomp is the registered trademark of the Group. © Premier Farnell plc 2008.

