



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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PNP HIGH POWER SILICON TRANSISTOR

Qualified per MIL-PRF-19500/ 379

Devices

2N3791

2N3792

Qualified Level

JAN
JANTX
JANTXV

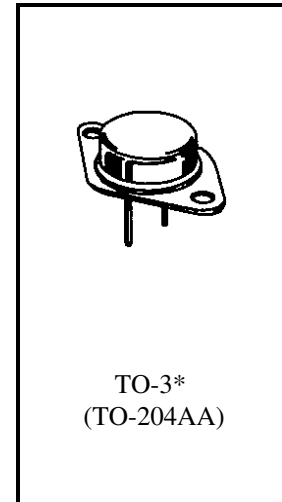
MAXIMUM RATINGS

| Ratings | Symbol | 2N3791 | 2N3792 | Unit |
|--|----------------|--|--------|-------------|
| Collector-Emitter Voltage | V_{CEO} | 60 | 80 | Vdc |
| Collector-Base Voltage | V_{CBO} | 60 | 80 | Vdc |
| Emitter-Base Voltage | V_{EBO} | 7.0 | | Vdc |
| Base Current | I_B | 4.0 | | Adc |
| Collector Current | I_C | 10 | | Adc |
| Total Power Dissipation | P_T | @ $T_A = +25^{\circ}C$ ⁽¹⁾ | 5.0 | W |
| | | @ $T_C = +100^{\circ}C$ ⁽²⁾ | 85.7 | W |
| Operating & Storage Junction Temperature Range | T_J, T_{stg} | -65 to +200 | | $^{\circ}C$ |

THERMAL CHARACTERISTICS

| Characteristics | Symbol | Max. | Unit |
|--------------------------------------|-----------------|------|---------------|
| Thermal Resistance, Junction-to-Case | $R_{\theta JC}$ | 1.17 | $^{\circ}C/W$ |

- 1) Derate linearly @ $28.57 \text{ mW}/^{\circ}C$ for $T_A > +25^{\circ}C$
- 2) Derate linearly @ $0.857 \text{ mW}/^{\circ}C$ for $T_C > +100^{\circ}C$



*See Appendix A for Package Outline

ELECTRICAL CHARACTERISTICS ($T_C = 25^{\circ}C$ unless otherwise noted)

| Characteristics | Symbol | Min. | Max. | Unit |
|-----------------|--------|------|------|------|
|-----------------|--------|------|------|------|

OFF CHARACTERISTICS

| | | | | |
|--|------------------|---------------|------------|------|
| Collector-Emitter Breakdown Voltage $I_C = 10 \text{ mAdc}$ | 2N3791 2N3792 | $V_{(BR)CEO}$ | 60 80 | Vdc |
| Collector-Emitter Cutoff Current $V_{CE} = 50 \text{ Vdc}$ $V_{CE} = 70 \text{ Vdc}$ | 2N3791 2N3792 | I_{CES} | 5.0 5.0 | mAdc |
| Collector-Emitter Cutoff Current $V_{CE} = 60 \text{ Vdc}, V_{BE} = 1.5 \text{ Vdc}$ $V_{CE} = 80 \text{ Vdc}, V_{BE} = 1.5 \text{ Vdc}$ | 2N3791 2N3792 | I_{CEX} | 5.0 5.0 | mAdc |

2N3791, 2N3792 JAN SERIES

ELECTRICAL CHARACTERISTICS (con't)

| Characteristics | Symbol | Min. | Max. | Unit |
|---|------------------|--------|------|------|
| Collector-Base Cutoff Current V _{CB} = 60 Vdc V _{CB} = 80 Vdc | I _{CBO} | 2N3791 | 5.0 | mAdc |
| 2N3792 | | 5.0 | | |
| Emitter-Base Cutoff Current V _{EB} = 7.0 Vdc | I _{EBO} | | 5.0 | mAdc |

ON CHARACTERISTICS ⁽³⁾

| | | | | |
|---|----------------------|-----------------------|------------|-----|
| Forward-Current Transfer Ratio I _C = 1.0 Adc, V _{CE} = 2.0 Vdc I _C = 3.0 Adc, V _{CE} = 2.0 Vdc I _C = 5.0 Adc, V _{CE} = 2.0 Vdc I _C = 10 Adc, V _{CE} = 4.0 Vdc | h _{FE} | 50 30 10 5.0 | 150 120 | |
| Collector-Emitter Saturation Voltage I _C = 5.0 Adc, I _B = 0.5 Adc I _C = 10 Adc, I _B = 2.0 Adc | V _{CE(sat)} | | 1.0 2.5 | Vdc |
| Base-Emitter Saturation Voltage I _C = 5.0 Adc, I _B = 0.5 Adc I _C = 10 Adc, I _B = 2.0 Adc | V _{BE(sat)} | | 1.5 3.0 | Vdc |

DYNAMIC CHARACTERISTICS

| | | | | |
|--|------------------|-----|-----|----|
| Magnitude of Common Emitter Small-Signal Short-Circuit Forward Current Transfer Ratio I _C = 0.5 Adc, V _{CE} = 10 Vdc, f = 1.0 MHz | h _{fe} | 4.0 | 20 | |
| Small-Signal Short-Circuit Forward Current Transfer Ratio I _C = 0.5 Adc, V _{CE} = 10 Vdc, f = 1.0 kHz | h _{fe} | 30 | 300 | |
| Output Capacitance V _{CB} = 10 Vdc, I _E = 0, f = 1.0 MHz | C _{obo} | | 500 | pF |

SAFE OPERATING AREA

| | | | | |
|---|--------|--|--|--|
| DC Tests | | | | |
| T _C = +25°C, 1 Cycle, t ≥ 1.0 s | | | | |
| Test 1 | | | | |
| V _{CE} = 15 Vdc, I _C = 10 Adc | | | | |
| Test 2 | | | | |
| V _{CE} = 40 Vdc, I _C = 3.75 Adc | | | | |
| Test 3 | | | | |
| V _{CE} = 55 Vdc, I _C = 0.9 Adc | 2N3791 | | | |
| V _{CE} = 65 Vdc, I _C = 0.9 Adc | 2N3792 | | | |

(3) Pulse Test: Pulse Width = 300µs, Duty Cycle ≤ 2.0%.