



THE DATASHEET OF
2N5796



PNP DUAL SILICON TRANSISTOR

Qualified per MIL-PRF-19500/496

Devices

2N5795

2N5796
2N5796U

Qualified Level

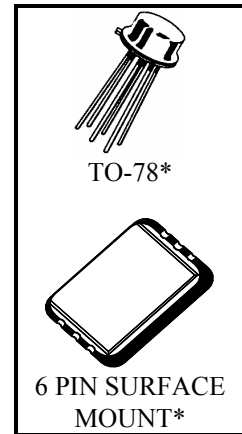
JAN
JANTX
JANTXV

MAXIMUM RATINGS

| Ratings | Symbol | Value | | Units |
|--|----------------|--------------------------------------|--|-------------|
| Collector-Emitter Voltage | V_{CEO} | 60 | | Vdc |
| Collector-Base Voltage | V_{CBO} | 60 | | Vdc |
| Emitter-Base Voltage | V_{EBO} | 5.0 | | Vdc |
| Collector Current | I_C | 600 | | mAdc |
| | | One⁽¹⁾ Section | Both⁽²⁾ Sections | |
| Total Power Dissipation @ $T_A = +25^{\circ}C$ | P_T | 0.5 | 0.6 | W |
| Operating & Storage Junction Temperature Range | T_J, T_{stg} | -65 to +175 | | $^{\circ}C$ |

1) Derate linearly 2.86 mW/ $^{\circ}C$ for $T_A \geq +25^{\circ}C$

2) Derate linearly 3.43 mW/ $^{\circ}C$ for $T_A \geq +25^{\circ}C$



*See MILPRF19500/496 for package outline

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

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

OFF CHARACTERISTICS

| | | | | |
|--|---------------|----|-----------|-------------------------|
| Collector-Emitter Breakdown Voltage $I_C = 10$ mAdc | $V_{(BR)CEO}$ | 60 | | Vdc |
| Collector-Base Cutoff Current $V_{CB} = 50$ Vdc $V_{CBO} = 60$ Vdc | I_{CBO} | | 10 10 | η Adc μ Adc |
| Emitter-Base Cutoff Current $V_{EB} = 3.0$ Vdc $V_{EB} = 5.0$ Vdc | I_{EBO} | | 100 10 | η Adc μ Adc |

2N5795, 2N5796 JAN SERIES

ELECTRICAL CHARACTERISTICS (con't)

| Characteristics | Symbol | Min. | Max. | Unit |
|---|-------------------|-------------------------------------|------------|------|
| ON CHARACTERISTICS (1) | | | | |
| Forward-Current Transfer Ratio $I_C = 100 \mu\text{A dc}, V_{CE} = 10 \text{ V dc}$ $I_C = 1.0 \text{ mA dc}, V_{CE} = 10 \text{ V dc}$ $I_C = 10 \text{ mA dc}, V_{CE} = 10 \text{ V dc}$ $I_C = 150 \text{ mA dc}, V_{CE} = 10 \text{ V dc}$ $I_C = 300 \text{ mA dc}, V_{CE} = 10 \text{ V dc}$ $I_C = 150 \text{ mA dc}, V_{CE} = 1.0 \text{ V dc}$ | 2N5795 | 40 40 40 40 20 20 | 150 | |
| Forward-Current Transfer Ratio $I_C = 100 \mu\text{A dc}, V_{CE} = 10 \text{ V dc}$ $I_C = 1.0 \text{ mA dc}, V_{CE} = 10 \text{ V dc}$ $I_C = 10 \text{ mA dc}, V_{CE} = 10 \text{ V dc}$ $I_C = 150 \text{ mA dc}, V_{CE} = 10 \text{ V dc}$ $I_C = 300 \text{ mA dc}, V_{CE} = 10 \text{ V dc}$ $I_C = 150 \text{ mA dc}, V_{CE} = 1.0 \text{ V dc}$ | 2N5796 2N5796U | 75 100 100 100 50 50 | 300 | |
| Collector-Emitter Saturation Voltage $I_C = 150 \text{ mA dc}, I_B = 15 \text{ mA dc}$ $I_C = 500 \text{ mA dc}, I_B = 50 \text{ mA dc}$ | $V_{CE(sat)}$ | | 0.4 1.6 | Vdc |
| Base-Emitter Saturation Voltage $I_C = 150 \text{ mA dc}, I_B = 15 \text{ mA dc}$ $I_C = 500 \text{ mA dc}, I_B = 50 \text{ mA dc}$ | $V_{BE(sat)}$ | | 1.3 2.6 | Vdc |

DYNAMIC CHARACTERISTICS

| | | | | |
|---|------------|-----|-----|----|
| Magnitude of Small-Signal Forward Current Transfer Ratio $I_C = 20 \text{ mA dc}, V_{CE} = 20 \text{ V dc}, f = 100 \text{ MHz}$ | $ h_{fe} $ | 2.0 | 10 | |
| Output Capacitance $V_{CB} = 10 \text{ V dc}, I_E = 0, 100 \text{ kHz} \leq f \leq 1.0 \text{ MHz}$ | C_{obo} | | 8.0 | pF |
| Input Capacitance $V_{EB} = 2.0 \text{ V dc}, I_C = 0, 100 \text{ kHz} \leq f \leq 1.0 \text{ MHz}$ | C_{ibo} | | 25 | pF |

SWITCHING CHARACTERISTICS

| | | | | |
|--|-----------|--|-----|----|
| Turn-On Time $V_{CC} = 30 \text{ V dc}; I_C = 150 \text{ mA dc}; I_{B1} = 15 \text{ mA dc}$ | t_{on} | | 50 | ns |
| Turn-Off Time $V_{CC} = 30 \text{ V dc}; I_C = 150 \text{ mA dc}; I_{B1} = I_{B2} = 15 \text{ mA dc}$ | t_{off} | | 140 | ns |

1) Pulse Test: Pulse Width = 300 μ s, Duty Cycle \leq 2.0%.

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