

NPN SILICON MEDIUM POWER TRANSISTOR

Qualified per MIL-PRF-19500/207

Devices

2N1483 2N1484 2N1485 2N1486

Qualified Level

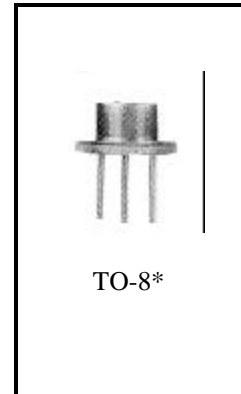
JAN
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MAXIMUM RATINGS

| Ratings | Symbol | 2N1483 2N1485 | 2N1484 2N1486 | Unit |
|--|----------------|--------------------------------------|------------------|-------------|
| Collector-Emitter Voltage | V_{CEO} | 40 | 55 | Vdc |
| Collector-Base Voltage | V_{CBO} | 60 | 100 | Vdc |
| Emitter-Base Voltage | V_{EBO} | 12 | | Vdc |
| Collector Current -- Continuous | I_C | 3.0 | | Adc |
| Total Power Dissipation | P_T | @ $T_A = 25^{\circ}C$ ⁽¹⁾ | | 1.75 |
| | | @ $T_C = 25^{\circ}C$ ⁽²⁾ | | 25 |
| Operating & Storage Junction Temperature Range | T_J, T_{stg} | -65 to +200 | | $^{\circ}C$ |

1) Derate linearly 0.010 W/ $^{\circ}C$ for $T_A > 25^{\circ}C$

2) Derate linearly 0.143 W/ $^{\circ}C$ for $T_C > 25^{\circ}C$



*See Appendix A for Package Outline

ELECTRICAL CHARACTERISTICS

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

OFF CHARACTERISTICS

| | | | | |
|--|----------------------------------|---------------|-----------|-----------|
| Collector-Emitter Breakdown Voltage $I_C = 100$ mAdc | 2N1483, 2N1485 2N1484, 2N1486 | $V_{(BR)CEO}$ | 40 55 | Vdc |
| Collector-Base Breakdown Voltage $I_C = 100$ μ Adc | 2N1483, 2N1485 2N1484, 2N1486 | $V_{(BR)CBO}$ | 60 100 | Vdc |
| Collector-Emitter Breakdown Voltage $V_{EB} = 1.5$ Vdc, $I_C = 0.25$ mAdc | 2N1483, 2N1485 2N1484, 2N1486 | $V_{(BR)CEX}$ | 60 100 | Vdc |
| Collector-Base Cutoff Current $V_{CB} = 30$ Vdc | 2N1483, 2N1485 | I_{CBO} | 15 15 | μ Adc |
| $V_{CB} = 50$ Vdc | 2N1484, 2N1486 | | | |
| Emitter-Base Cutoff Current $V_{EB} = 12$ Vdc | | I_{EBO} | 15 | μ Adc |

2N1483, 2N1484, 2N1485, 2N1486 JAN SERIES

ELECTRICAL CHARACTERISTICS (cont)

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

DC CHARACTERISTICS ⁽³⁾

| | | | | | |
|--|----------------------------------|---------------|----------|--------------|-----|
| Forward-Current Transfer Ratio $I_C = 750 \text{ mAdc}, V_{CE} = 4.0 \text{ Vdc}$ | 2N1483, 2N1484 2N1485, 2N1486 | h_{FE} | 20 35 | 60 100 | |
| Collector-Emitter Saturation Voltage $I_C = 750 \text{ mAdc}, I_B = 75 \text{ mAdc}$ $I_C = 750 \text{ mAdc}, I_B = 40 \text{ mAdc}$ | 2N1483, 2N1484 2N1485, 2N1486 | $V_{CE(sat)}$ | | 1.20 0.75 | Vdc |
| Base-Emitter Voltage $I_C = 750 \text{ mAdc}, V_{CE} = 4.0 \text{ Vdc}$ | | V_{BE} | | 2.0 | Vdc |

DYNAMIC CHARACTERISTICS

| | | | | | |
|---|--|-----------|-----|-----|-----|
| Forward Current Transfer Ratio $I_C = 5.0 \text{ mAdc}, V_{CB} = 28 \text{ Vdc}$ | | f_{hfb} | 600 | | kHz |
| Output Capacitance $V_{CB} = 10 \text{ Vdc}, I_E = 0, 100 \text{ kHz} \leq f \leq 1.0 \text{ MHz}$ | | C_{obo} | | 400 | pF |

SWITCHING CHARACTERISTICS

| | | | | | |
|---|--|--------------------|--|----|---------------|
| Turn-On Time $V_{CC} = 12 \text{ Vdc}; R_C = 15.9 \Omega; I_{B0} = I_{B2} = 35 \text{ mAdc}; I_{B1} = 65 \text{ mAdc}$ | | $t_{on} + t_{off}$ | | 25 | μs |
|---|--|--------------------|--|----|---------------|

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

