

TECHNICAL DATA

MULTIPLE (QUAD) PNP SILICON SWITCHING TRANSISTOR Qualified per MIL-PRF-19500/558

Devices

2N6987 2N6987U

2N6988

Qualified Level JAN JANTX JANTXV JANS

MAXIMUM RATINGS (1)

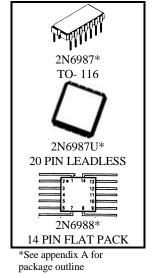
| Ratings | Symbol | Value | Units |
|--|------------------|-------------------|----------------|
| Collector-Emitter Voltage ⁽⁴⁾ | V _{CEO} | 60 | Vdc |
| Collector-Base Voltage ⁽⁴⁾ | V _{CBO} | 60 | Vdc |
| Emitter-Base Voltage ⁽⁴⁾ | V _{EBO} | 5.0 | Vdc |
| Collector Current | I _C | 600 | mAdc |
| Total Power Dissipation @ $T_A = +25^{0}C$ 2N6987 ⁽²⁾ 2N6987U ⁽²⁾ 2N6988 ⁽³⁾ | P _T | 1.5 1.0 0.4 | W |
| Operating & Storage Junction Temperature Range | Top. Tstg | -65 to +200 | ⁰ C |

1) Maximum voltage between transistors shall be ≥ 500 Vdc

2) Derate linearly 8.57 mW/ $^{\circ}$ C above T_A = +25 $^{\circ}$ C

3) Derate linearly 2.286 mW/ 0 C above T_A = +25 0 C.

4) Ratings apply to each transistor in the array.



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

| Characteristics | Symbol | Min. | Max. | Unit |
|-------------------------------------|------------------|-------------------------|------|------|
| OFF CHARACTERISTICS | | | | |
| Collector-Emitter Breakdown Voltage | N/ | V _{(BR)CEO} 60 | 60 | Vdc |
| $I_{\rm C} = 10 \text{ mAdc}$ | V (BR)CEO | | | vuc |
| Collector-Base Cutoff Current | | | | |
| $V_{CB} = 60 \text{ Vdc}$ | I _{CBO} | | 10 | μAdc |
| $V_{CB} = 50 \text{ Vdc}$ | | | 10 | ηAdc |
| Emitter-Base Cutoff Current | | | | |
| $V_{BE} = 5.0 \text{ Vdc}$ | I_{EBO} | | 10 | μAdc |
| $V_{\rm EB} = 3.5 \mathrm{Vdc}$ | | | 50 | ηAdc |

2N6987, 2N6988 JAN, SERIES

| ELECTRICAL CHARACTERISTICS (con't) | | | | | |
|--|----------------------|------|------|------|--|
| Characteristics | Symbol | Min. | Max. | Unit | |
| ON CHARACTERISTICS | | | | | |
| Forward-Current Transfer Ratio | | | | | |
| $I_{C} = 0.1 \text{ mAdc}, V_{CE} = 10 \text{ Vdc}$ | | 75 | | | |
| $I_{C} = 1.0 \text{ mAdc}, V_{CE} = 10 \text{ Vdc}$ | | 100 | 450 | | |
| $I_C = 10 \text{ mAdc}, V_{CE} = 10 \text{ Vdc}$ | $h_{\rm FE}$ | 100 | 200 | | |
| $I_{C} = 150 \text{ mAdc}, V_{CE} = 10 \text{ Vdc}$ | | 100 | 300 | | |
| $I_C = 500 \text{ mAdc}, V_{CE} = 10 \text{ Vdc}$ | | 50 | | | |
| Collector-Emitter Saturation Voltage | | | | | |
| $I_C = 150 \text{ mAdc}, I_B = 15 \text{ mAdc}$ | V _{CE(sat)} | | 0.4 | | |
| $I_{\rm C} = 500 \text{ mAdc}, I_{\rm B} = 50 \text{ mAdc}$ | | | 1.6 | Vdc | |
| Base-Emitter Voltage | | | | | |
| $I_C = 150 \text{ mAdc}, I_B = 15 \text{ mAdc}$ | V _{BE(sat)} | | 1.3 | Vdc | |
| $I_C = 500 \text{ mAdc}, I_B = 50 \text{ mAdc}$ | | | 2.6 | | |
| DYNAMIC CHARACTERISTICS | | | | | |
| Magnitude of Small-Signal Short-Circuit | | 2.0 | 8.0 | | |
| Forward-Current Transfer Ratio | h _{fe} | | | | |
| $I_{C} = 50 \text{ mAdc}, V_{CE} = 20 \text{ Vdc}, f = 100 \text{ MHz}$ | | | | | |
| Small-Signal Short-Circuit Forward Current Transfer Ratio | h _{fe} | 100 | | | |
| $I_{C} = 1.0 \text{ mAdc}, V_{CE} = 10 \text{ Vdc}, f = 1.0 \text{ kHz}$ | IIfe | | | | |
| Output Capacitance | C _{obo} | | 8.0 | pF | |
| $V_{CB} = 10 \text{ Vdc}, I_E = 0, 100 \text{ kHz} \le f \le 1.0 \text{ MHz}$ | Cobo | | | | |
| Input Capacitance | C _{ibo} | | 30 | pF | |
| $V_{EB} = 2.0 \text{ Vdc}, I_C = 0, 100 \text{ kHz} \le f \le 1.0 \text{ MHz}$ | C _{1bo} | | | | |

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