

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⁾

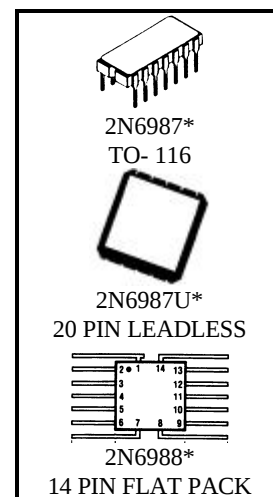
Ratings	Symbol	Value	Units
Collector-Emitter Voltage ⁽⁴⁾	V_{CEO}	60	Vdc
Collector-Base Voltage ⁽⁴⁾	V_{CBO}	60	Vdc
Emitter-Base Voltage ⁽⁴⁾	V_{EBO}	5.0	Vdc
Collector Current	I_C	600	mAdc
Total Power Dissipation @ $T_A = +25^{\circ}\text{C}$ 2N6987 ⁽²⁾ 2N6987U ⁽²⁾ 2N6988 ⁽³⁾	P_T	1.5 1.0 0.4	W
Operating & Storage Junction Temperature Range	T_{op}, T_{stg}	-65 to +200	$^{\circ}\text{C}$

1) Maximum voltage between transistors shall be ≥ 500 Vdc

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

3) Derate linearly 2.286 mW/ $^{\circ}\text{C}$ above $T_A = +25^{\circ}\text{C}$.

4) Ratings apply to each transistor in the array.



*See appendix A for package outline

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

Characteristics	Symbol	Min.	Max.	Unit
Collector-Emitter Breakdown Voltage $I_C = 10$ mAdc	$V_{(BR)CEO}$	60		Vdc
Collector-Base Cutoff Current $V_{CB} = 60$ Vdc $V_{CB} = 50$ Vdc	I_{CBO}		10 10	μAdc ηAdc
Emitter-Base Cutoff Current $V_{BE} = 5.0$ Vdc $V_{EB} = 3.5$ Vdc	I_{EBO}		10 50	μAdc ηAdc

ELECTRICAL CHARACTERISTICS (con't)

Characteristics	Symbol	Min.	Max.	Unit
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DC CHARACTERISTICS

Forward-Current Transfer Ratio $I_C = 0.1 \text{ mAdc}, V_{CE} = 10 \text{ Vdc}$ $I_C = 1.0 \text{ mAdc}, V_{CE} = 10 \text{ Vdc}$ $I_C = 10 \text{ mAdc}, V_{CE} = 10 \text{ Vdc}$ $I_C = 150 \text{ mAdc}, V_{CE} = 10 \text{ Vdc}$ $I_C = 500 \text{ mAdc}, V_{CE} = 10 \text{ Vdc}$	h_{FE}	75 100 100 100 50	450 300	
Collector-Emitter Saturation Voltage $I_C = 150 \text{ mAdc}, I_B = 15 \text{ mAdc}$ $I_C = 500 \text{ mAdc}, I_B = 50 \text{ mAdc}$	$V_{CE(sat)}$		0.4 1.6	Vdc
Base-Emitter Voltage $I_C = 150 \text{ mAdc}, I_B = 15 \text{ mAdc}$ $I_C = 500 \text{ mAdc}, I_B = 50 \text{ mAdc}$	$V_{BE(sat)}$		1.3 2.6	Vdc

DYNAMIC CHARACTERISTICS

Magnitude of Small-Signal Short-Circuit Forward-Current Transfer Ratio $I_C = 50 \text{ mAdc}, V_{CE} = 20 \text{ Vdc}, f = 100 \text{ MHz}$	$ h_{fe} $	2.0	8.0	
Small-Signal Short-Circuit Forward Current Transfer Ratio $I_C = 1.0 \text{ mAdc}, V_{CE} = 10 \text{ Vdc}, f = 1.0 \text{ kHz}$	h_{fe}	100		
Output Capacitance $V_{CB} = 10 \text{ Vdc}, I_E = 0, 100 \text{ kHz} \leq f \leq 1.0 \text{ MHz}$	C_{obo}		8.0	pF
Input Capacitance $V_{EB} = 2.0 \text{ Vdc}, I_C = 0, 100 \text{ kHz} \leq f \leq 1.0 \text{ MHz}$	C_{ibo}		30	pF