

## PNP POWER SILICON TRANSISTOR

Qualified per MIL-PRF-19500/514

### Devices

2N6274

2N6277

### Qualified Level

JAN  
JANTX  
JANTXV

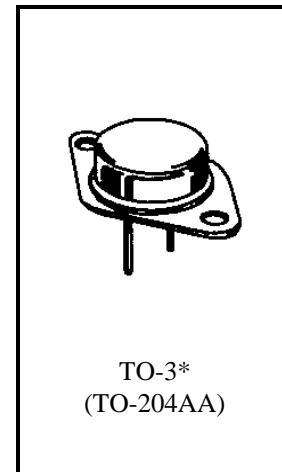
### MAXIMUM RATINGS

Ratings	Symbol	2N6274	2N6277	Unit
Collector-Emitter Voltage	$V_{CEO}$	100	150	Vdc
Collector-Base Voltage	$V_{CBO}$	120	180	Vdc
Emitter-Base Voltage	$V_{EBO}$	6.0		Vdc
Base Current	$I_B$	20		Adc
Collector Current	$I_C$	50		Adc
Total Power Dissipation	$P_T$	@ $T_C = +25^{\circ}\text{C}$ (1)	250	W
		@ $T_C = +100^{\circ}\text{C}$ (2)	143	W
Operating & Storage Junction Temperature Range	$T_j, T_{stg}$	-65 to +200		$^{\circ}\text{C}$

### THERMAL CHARACTERISTICS

Characteristics	Symbol	Max.	Unit
Thermal Resistance, Junction-to-Case	$R_{\theta JC}$	0.7	$^{\circ}\text{C}/\text{W}$

1) Derate linearly 1.43 W/ $^{\circ}\text{C}$  between  $T_C = +25^{\circ}\text{C}$  and  $T_C = +200^{\circ}\text{C}$



\*See appendix A for package outline

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

Characteristics	Symbol	Min.	Max.	Unit
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### OFF CHARACTERISTICS

Collector-Emitter Breakdown Voltage $I_C = 50 \text{ mAdc}$	2N6274 2N6277	$V_{(BR)CEO}$	100 150	Vdc
Collector-Emitter Cutoff Current $V_{CE} = 50 \text{ Vdc}$ $V_{CE} = 75 \text{ Vdc}$	2N6274 2N6277	$I_{CEO}$	50 50	$\mu\text{Adc}$
Collector-Emitter Cutoff Current $V_{CE} = 120 \text{ Vdc}, V_{BE} = -1.5 \text{ Vdc}$ $V_{CE} = 180 \text{ Vdc}, V_{BE} = -1.5 \text{ Vdc}$	2N6274 2N6277	$I_{CEX}$	10 10	$\mu\text{Adc}$
Emitter-Base Cutoff Current $V_{EB} = 6.0 \text{ Vdc}$		$I_{EBO}$	100	$\mu\text{Adc}$
Collector-Base Cutoff Current $V_{CB} = 120 \text{ Vdc}$ $V_{CB} = 180 \text{ Vdc}$	2N6274 2N6277	$I_{CBO}$	10 10	$\mu\text{Adc}$

**2N6274, 2N6277 JAN SERIES**

**ELECTRICAL CHARACTERISTICS (con't)**

Characteristics	Symbol	Min.	Max.	Unit
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**ON CHARACTERISTICS <sup>(2)</sup>**

Forward-Current Transfer Ratio I <sub>C</sub> = 1.0 Adc, V <sub>CE</sub> = 4.0 Vdc I <sub>C</sub> = 20 Adc, V <sub>CE</sub> = 4.0 Vdc I <sub>C</sub> = 50 Adc, V <sub>CE</sub> = 4.0 Vdc	h <sub>FE</sub>	50 30 10	120	
Collector-Emitter Saturation Voltage I <sub>C</sub> = 20 Adc, I <sub>B</sub> = 2.0 Adc I <sub>C</sub> = 50 Adc, I <sub>B</sub> = 10 Adc	V <sub>CE(sat)</sub>		1.0 3.0	Vdc
Base-Emitter Saturation Voltage I <sub>C</sub> = 20 Adc, I <sub>B</sub> = 2.0 Adc	V <sub>BE(sat)</sub>		1.8	Vdc

**DYNAMIC CHARACTERISTICS**

Magnitude of Common Emitter Small-Signal Short-Circuit Forward Current Transfer Ratio I <sub>C</sub> = 1.0 Adc, V <sub>CE</sub> = 10 Vdc, f = 10 MHz	h <sub>fe</sub>	3.0	12	
Output Capacitance V <sub>CB</sub> = 10 Vdc, I <sub>E</sub> = 0, f = 1.0 MHz	C <sub>obo</sub>		600	pF

**SWITCHING CHARACTERISTICS**

Turn-On Time V <sub>CC</sub> = 80 Vdc; I <sub>C</sub> = 20 Adc; I <sub>B</sub> = 2.0 Adc	t <sub>on</sub>		0.5	μs
Turn-Off Time V <sub>CC</sub> = 80 Vdc; I <sub>C</sub> = 20 Adc; I <sub>B1</sub> = -I <sub>B2</sub> = 2.0 Adc	t <sub>off</sub>		1.05	μs

**SAFE OPERATING AREA**

<b>DC Tests</b> T <sub>C</sub> = +25°C, 1 Cycle, t = 1.0 s		
<b>Test 1</b> V <sub>CE</sub> = 5.0 Vdc, I <sub>C</sub> = 50 Adc	All Types	
<b>Test 2</b> V <sub>CE</sub> = 8.6 Vdc, I <sub>C</sub> = 165 mAdc	All Types	
<b>Test 3</b> V <sub>CE</sub> = 80 Vdc, I <sub>C</sub> = 29 mAdc	2N6274	
<b>Test 4</b> V <sub>CE</sub> = 120 Vdc, I <sub>C</sub> = 110 mAdc	2N6277	

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



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