

## PNP POWER SILICON TRANSISTOR

Qualified per MIL-PRF-19500/514

### Devices

2N6274

2N6277

### Qualified Level

JAN  
JANTX  
JANTXV

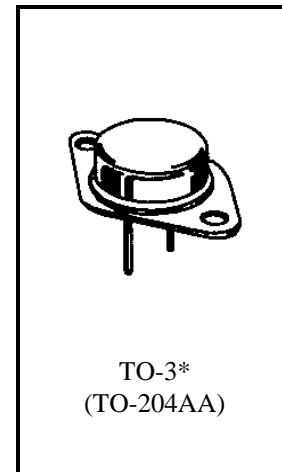
### MAXIMUM RATINGS

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	$P_T$	@ $T_C = +25^{\circ}C$ (1)	250	W
		@ $T_C = +100^{\circ}C$ (2)	143	W
Operating & Storage Junction Temperature Range	$T_j, T_{stg}$	-65 to +200		$^{\circ}C$

### THERMAL CHARACTERISTICS

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

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



\*See appendix A for package outline

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

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

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

**ELECTRICAL CHARACTERISTICS (con't)**

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

Forward-Current Transfer Ratio $I_C = 1.0 \text{ Adc}, V_{CE} = 4.0 \text{ Vdc}$ $I_C = 20 \text{ Adc}, V_{CE} = 4.0 \text{ Vdc}$ $I_C = 50 \text{ Adc}, V_{CE} = 4.0 \text{ Vdc}$	$h_{FE}$	50 30 10	120	
Collector-Emitter Saturation Voltage $I_C = 20 \text{ Adc}, I_B = 2.0 \text{ Adc}$ $I_C = 50 \text{ Adc}, I_B = 10 \text{ Adc}$	$V_{CE(sat)}$		1.0 3.0	Vdc
Base-Emitter Saturation Voltage $I_C = 20 \text{ Adc}, I_B = 2.0 \text{ Adc}$	$V_{BE(sat)}$		1.8	Vdc

**DYNAMIC CHARACTERISTICS**

Magnitude of Common Emitter Small-Signal Short-Circuit Forward Current Transfer Ratio $I_C = 1.0 \text{ Adc}, V_{CE} = 10 \text{ Vdc}, f = 10 \text{ MHz}$	$ h_{fe} $	3.0	12	
Output Capacitance $V_{CB} = 10 \text{ Vdc}, I_E = 0, f = 1.0 \text{ MHz}$	$C_{obo}$		600	pF

**SWITCHING CHARACTERISTICS**

Turn-On Time $V_{CC} = 80 \text{ Vdc}; I_C = 20 \text{ Adc}; I_B = 2.0 \text{ Adc}$	$t_{on}$		0.5	$\mu\text{s}$
Turn-Off Time $V_{CC} = 80 \text{ Vdc}; I_C = 20 \text{ Adc}; I_{B1} = -I_{B2} = 2.0 \text{ Adc}$	$t_{off}$		1.05	$\mu\text{s}$

**SAFE OPERATING AREA**

<b>DC Tests</b> $T_C = +25^\circ\text{C}, 1 \text{ Cycle}, t = 1.0 \text{ s}$		
<b>Test 1</b> $V_{CE} = 5.0 \text{ Vdc}, I_C = 50 \text{ Adc}$	All Types	
<b>Test 2</b> $V_{CE} = 8.6 \text{ Vdc}, I_C = 165 \text{ mAdc}$	All Types	
<b>Test 3</b> $V_{CE} = 80 \text{ Vdc}, I_C = 29 \text{ mAdc}$	2N6274	
<b>Test 4</b> $V_{CE} = 120 \text{ Vdc}, I_C = 110 \text{ mAdc}$	2N6277	

(2) Pulse Test: Pulse Width = 300 $\mu\text{s}$ , Duty Cycle  $\leq 2.0\%$ .