

## PNP SWITCHING SILICON TRANSISTOR

Qualified per MIL-PRF-19500/396

### Devices

2N3762	2N3763	2N3764	2N3765
2N3762L	2N3763L		

### Qualified Level

JAN  
JANTX  
JANTXV

### MAXIMUM RATINGS

Ratings	Symbol	2N3762* 2N3764	2N3763* 2N3765	Unit
Collector-Emitter Voltage	$V_{CEO}$	40	60	Vdc
Collector-Base Voltage	$V_{CBO}$	40	60	Vdc
Emitter-Base Voltage	$V_{EBO}$	5.0		Vdc
Collector Current	$I_C$	1.5		Adc
		2N3762* <sup>1</sup> 2N3763*	2N3764 <sup>2</sup> 2N3765	
Total Power Dissipation @ $T_A = +25^{\circ}C$	$P_T$	1.0	0.5	W
Operating & Storage Junction Temp. Range	$T_{op}, T_{stg}$	-55 to +200		$^{\circ}C$

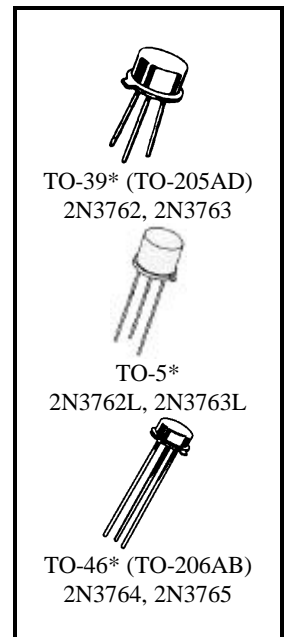
### THERMAL CHARACTERISTICS

Characteristics	Symbol	Max.		Unit
		2N3762* <sup>1</sup> 2N3763*	2N3764 2N3765	
Thermal Resistance Junction-to-Case	$R_{\theta JC}$	60	88	$^{\circ}C/W$

\*Electrical characteristics for "L" suffix devices are identical to the "non L" corresponding devices

1) Derate linearly at 5.71 mW/ $^{\circ}C$  for  $T_A > +25^{\circ}C$

2) Derate linearly at 2.86 mW/ $^{\circ}C$  for  $T_A > +25^{\circ}C$



\*See appendix A for package outline

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

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

Collector-Emitter Breakdown Current $I_C = 10$ mAdc	2N3762, 2N3764 2N3763, 2N3765	$V_{(BR)CEO}$	40 60	Vdc
Collector-Base Cutoff Current $V_{CB} = 20$ Vdc $V_{CB} = 30$ Vdc $V_{CB} = 40$ Vdc $V_{CB} = 60$ Vdc	2N3762, 2N3764 2N3763, 2N3765 2N3762, 2N3764 2N3763, 2N3765	$I_{CBO}$	 100 100 10 10	$\eta$ Adc $\mu$ Adc

**2N3762, L, 2N3763, L, 2N3764, 2N3765 JAN SERIES**

**ELECTRICAL CHARACTERISTICS (con't)**

Characteristics	Symbol	Min.	Max.	Unit
Collector-Emitter Cutoff Current V <sub>EB</sub> = 2.0 Vdc, V <sub>CE</sub> = 20 Vdc V <sub>EB</sub> = 2.0 Vdc, V <sub>CE</sub> = 30 Vdc	I <sub>CEX</sub>		100 100	ηAdc
Emitter-Base Cutoff Current V <sub>EB</sub> = 2.0 Vdc V <sub>EB</sub> = 5.0 Vdc	I <sub>EBO</sub>	All Types 2N3762, 2N3764 2N3763, 2N3765	200 10 10	ηAdc μAdc

**ON CHARACTERISTICS (3)**

Forward-Current Transfer Ratio I <sub>C</sub> = 10 mAdc, V <sub>CE</sub> = 1.0 Vdc I <sub>C</sub> = 150 mAdc, V <sub>CE</sub> = 1.0 Vdc I <sub>C</sub> = 500 mAdc, V <sub>CE</sub> = 1.0 Vdc I <sub>C</sub> = 1.0 Adc, V <sub>CE</sub> = 1.5 Vdc I <sub>C</sub> = 1.5 Adc, V <sub>CE</sub> = 5.0 Vdc	h <sub>FE</sub>	2N3762, 2N3764 2N3763, 2N3765 2N3762, 2N3764 2N3763, 2N3765	35 40 40 30 30 20	140 120 80	
Collector-Emitter Saturation Voltage I <sub>C</sub> = 10 mAdc, I <sub>B</sub> = 1.0 mAdc I <sub>C</sub> = 150 mAdc, I <sub>B</sub> = 15 mAdc I <sub>C</sub> = 500 mAdc, I <sub>B</sub> = 50 mAdc I <sub>C</sub> = 1.0 Adc, I <sub>B</sub> = 100 mAdc	V <sub>CE(sat)</sub>			0.1 0.22 0.5 0.9	Vdc
Base-Emitter Saturation Voltage I <sub>C</sub> = 10 mAdc, I <sub>B</sub> = 1.0 mAdc I <sub>C</sub> = 150 mAdc, I <sub>B</sub> = 15 mAdc I <sub>C</sub> = 500 mAdc, I <sub>B</sub> = 50 mAdc I <sub>C</sub> = 1.0 Adc, I <sub>B</sub> = 100 mAdc	V <sub>BE(sat)</sub>		0.9	0.8 1.0 1.2 1.4	Vdc

**DYNAMIC CHARACTERISTICS**

Forward Current Transfer Ratio, Magnitude I <sub>C</sub> = 50 mAdc, V <sub>CE</sub> = 10 Vdc, f = 100 MHz	h <sub>fe</sub>	2N3762, 2N3764 2N3763, 2N3765	1.8 1.5	6.0 6.0	
Output Capacitance V <sub>CB</sub> = 10 Vdc, I <sub>E</sub> = 0, 100 kHz ≤ f ≤ 1.0 MHz	C <sub>obo</sub>			25	pF
Input Capacitance V <sub>EB</sub> = 0.5 Vdc, I <sub>C</sub> = 0, 100 kHz ≤ f ≤ 1.0 MHz	C <sub>ibo</sub>			80	pF

**SWITCHING CHARACTERISTICS**

Delay Time	V <sub>CC</sub> = 30 Vdc, V <sub>EB</sub> = 0,	t <sub>d</sub>		8.0	ηs
Rise Time	I <sub>C</sub> = 1.0 mAdc, I <sub>B1</sub> = 100 mAdc	t <sub>r</sub>		35	ηs
Storage Time	V <sub>CC</sub> = 30 Vdc, V <sub>EB</sub> = 0,	t <sub>s</sub>		80	ηs
Fall Time	I <sub>C</sub> = 1.0 mAdc, I <sub>B1</sub> = 100 mAdc	t <sub>f</sub>		35	ηs

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