

**2N3762, 2N3762L JAN, JTX, JTXV**  
**2N3763, 2N3763L JAN, JTX, JTXV**  
**2N3764 JAN, JTX, JTXV**  
**2N3765 JAN, JTX, JTXV**



Processed per MIL-PRF-19500/396

**PNP SWITCHING SILICON TRANSISTOR**
**MAXIMUM RATINGS**

Ratings	Symbol	2N3762, L 2N3764	2N3763, L 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, L <sup>(1)</sup> 2N3763, L	2N3764 <sup>(2)</sup> 2N3765	
Total Power Dissipation @ $T_A = +25^{\circ}C$	$P_T$	1.0	0.5	W
Operating & Storage Junction Temperature Range	$T_J, T_{stg}$	-55 to +200		$^{\circ}C$

**THERMAL CHARACTERISTICS**

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

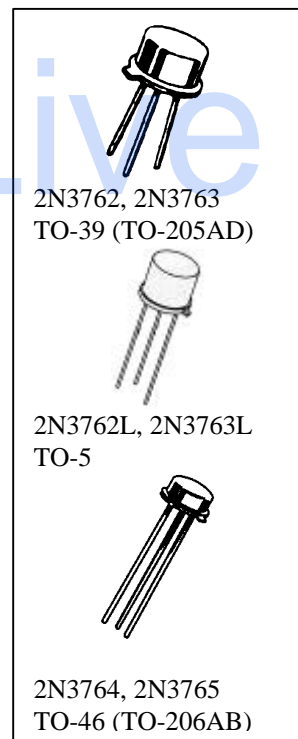
 1) Derate linearly at 5.71 mW/ $^{\circ}C$  for  $T_A > +25^{\circ}C$ 

 2) Derate linearly at 2.86 mW/ $^{\circ}C$  for  $T_A > +25^{\circ}C$ 
**ELECTRICAL CHARACTERISTICS ( $T_A = 25^{\circ}C$  unless otherwise noted)**

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

Collector-Base Breakdown Voltage $I_C = 10 \mu A_{dc}$	2N3762, L, 2N3764 2N3763, L, 2N3765	$V_{(BR)CBO}$	40 60	Vdc
Collector-Emitter Breakdown Current $I_C = 10 mA_{dc}$	2N3762, L, 2N3764 2N3763, L, 2N3765	$V_{(BR)CEO}$	40 60	Vdc
Emitter-Base Breakdown Voltage $I_E = 10 \mu A_{dc}$		$V_{(BR)EBO}$	5.0	Vdc



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

**ELECTRICAL CHARACTERISTICS (con't)**

Characteristics	Symbol	Min.	Max.	Unit
Collector-Base Cutoff Current V <sub>CB</sub> = 20 Vdc V <sub>CB</sub> = 30 Vdc	I <sub>CBO</sub>		100	ηAdc
2N3762, L, 2N3764 2N3763, L, 2N3765			100	
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	ηAdc
2N3762, L, 2N3764 2N3763, L, 2N3765			100	
Emitter-Base Cutoff Current V <sub>EB</sub> = 2.0 Vdc	I <sub>EBO</sub>		200	ηAdc

**ON CHARACTERISTICS (3)**

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

**DYNAMIC CHARACTERISTICS**

Forward Current Transfer Ratio, Magnitude I <sub>C</sub> = 50 mA <sub>dc</sub> , V <sub>CE</sub> = 10 Vdc, f = 100 MHz	h <sub>fe</sub>		1.8	6.0
2N3762, L, 2N3764 2N3763, L, 2N3765			1.5	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 mA <sub>dc</sub> , I <sub>B1</sub> = 100 mA <sub>dc</sub>	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 mA <sub>dc</sub> , I <sub>B1</sub> = 100 mA <sub>dc</sub>	t <sub>f</sub>		35	ηs

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