

PNP SWITCHING SILICON TRANSISTOR

Qualified per MIL-PRF-19500/396

Devices

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

Qualified Level

JAN
JANTX
JANTXV

MAXIMUM RATINGS

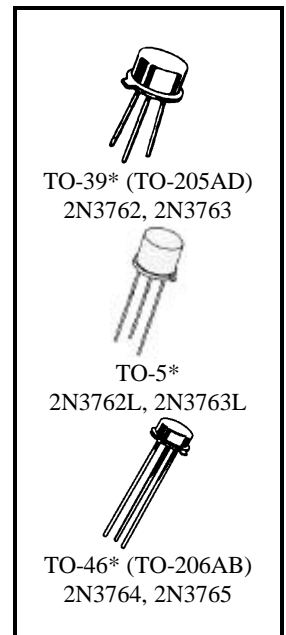
Ratings	Symbol	2N3762* 2N3764	2N3763* 2N3765	Unit
Collector-Emitter Voltage	V_{CEO}	40	60	Vdc
Collector-Base Voltage	V_{CBO}	40	60	Vdc
Emitter-Base Voltage	V_{EBO}	5.0		Vdc
Collector Current	I_C	1.5		Adc
		2N3762* ¹ 2N3763*	2N3764 ² 2N3765	
Total Power Dissipation @ $T_A = +25^{\circ}C$	P_T	1.0	0.5	W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

THERMAL CHARACTERISTICS

Characteristics	Symbol	Max.		Unit
		2N3762* ¹ 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	2N3762, 2N3764	I_{CBO}	100 100 10 10	η Adc μ Adc
$V_{CB} = 30$ Vdc	2N3763, 2N3765			
$V_{CB} = 40$ Vdc	2N3762, 2N3764			
$V_{CB} = 60$ Vdc	2N3763, 2N3765			

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

ELECTRICAL CHARACTERISTICS (con't)

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

ON CHARACTERISTICS (3)

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

DYNAMIC CHARACTERISTICS

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

SWITCHING CHARACTERISTICS

Delay Time	V _{CC} = 30 Vdc, V _{EB} = 0,	t _d		8.0	ηs
Rise Time	I _C = 1.0 mAdc, I _{B1} = 100 mAdc	t _r		35	ηs
Storage Time	V _{CC} = 30 Vdc, V _{EB} = 0,	t _s		80	ηs
Fall Time	I _C = 1.0 mAdc, I _{B1} = 100 mAdc	t _f		35	ηs

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