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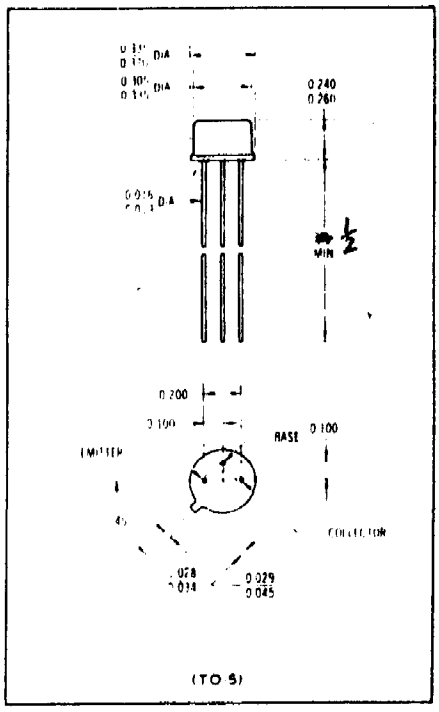
2N3762 (SILICON)

Medium-current PNP silicon annular transistor, designed for high-speed switching and driver applications.

MAXIMUM RATINGS (T_A = 25°C unless otherwise noted)

Rating	Symbol		Unit
Collector-Base Voltage	V_{CB}	40	Vdc
Collector-Emitter Voltage	V_{CEO}	40	Vdc
Emitter-Base Voltage	V_{EB}	5.0	Vdc
Collector Current	I_C	1.5	Adc
Total Device Dissipation @ T_A = 25°C Derating Factor Above 25°C	P_D	1.0 5.71	Watt mW/°C
Total Device Dissipation @ T_C = 25°C Derating Factor Above 25°C	P_D	4.0 22.8	Watts mW/°C
Thermal Resistance Junction to Ambient Junction to Case	 θ_{JA} θ_{JC}	 0.175 0.044	°C/mW
Junction Temperature, Operating	T_J	+200	°C
Storage Temperature Range	T_{stg}	-65 to +200	°C



(TO 5)

ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise noted)

Characteristic	Symbol	Min	Max	Unit
OFF CHARACTERISTICS				
Collector-Base Breakdown Voltage (I_C = 10 μAdc, I_E = 0)	BV_{CBO}	40	—	Vdc
Collector-Emitter Breakdown Voltage [1] (I_C = 10 mAdc, I_B = 0)	BV_{CEO}	40	—	Vdc
Emitter-Base Breakdown Voltage (I_E = 10 μAdc, I_C = 0)	BV_{EBO}	6.0	—	Vdc
Collector Cutoff Current (V_{CE} = 20 Vdc, V_{EB} = 2 Vdc)	I_{CEX}	—	0.10	μAdc
(V_{CE} = 20 Vdc, V_{EB} = 2 Vdc, T_A = 100°C)		—	10	
Base Cutoff Current (V_{CE} = 20 Vdc, V_{EB} = 2 Vdc)	I_{BL}	—	0.2	μAdc
ON CHARACTERISTICS				
DC Current Gain [1] (I_C = 10 mAdc, V_{CE} = 1 Vdc)	h_{FE}	35	—	—
(I_C = 150 mAdc, V_{CE} = 1 Vdc)		40	—	
(I_C = 500 mAdc, V_{CE} = 1 Vdc)		35	—	
(I_C = 1 Adc, V_{CE} = 1.5 Vdc)		30	120	
(I_C = 1.5 Adc, V_{CE} = 5 Vdc)		30	—	
Collector Saturation Voltage [1] (I_C = 10 mAdc, I_B = 1 mAdc)	$V_{CE(sat)}$	—	0.1	Vdc
(I_C = 150 mAdc, I_B = 15 mAdc)		—	0.22	
(I_C = 500 mAdc, I_B = 50 mAdc)		—	0.5	
(I_C = 1 Adc, I_B = 100 mAdc)		—	0.9	
Base-Emitter Saturation Voltage [1] (I_C = 10 mAdc, I_B = 1 mAdc)	$V_{BE(sat)}$	—	0.8	Vdc
(I_C = 150 mAdc, I_B = 15 mAdc)		—	1.0	
(I_C = 500 mAdc, I_B = 50 mAdc)		—	1.2	
(I_C = 1 Adc, I_B = 100 mAdc)		0.9	1.4	
TRANSIENT CHARACTERISTICS				
Output Capacitance (V_{CB} = 10 Vdc, I_E = 0, f = 100 kHz)	C_{ob}	—	15	pF
Input Capacitance (V_{BE} = 0.5 Vdc, I_C = 0, f = 100 kHz)	C_{ib}	—	80	pF
High Frequency Current Gain (I_C = 50 mAdc, V_{CE} = 10 Vdc, f = 100 MHz)	$\lvert h_{fe} \rvert$	1.5	—	—
Delay Time (V_{CC} = 30 V, $V_{BE(off)}$ = 2 V, I_C = 1 Amp, I_{B1} = 100 mA)	t_d	—	8.0	ns
Rise Time	t_r	—	35	ns
Storage Time (V_{CC} = 30 V, I_C = 1 Amp, I_{B1} = $-I_{B2}$ = 100 mA)	t_s	—	80	ns
Fall Time	t_f	—	35	ns
Total Control Charge (I_C = 1 Amp, I_B = 100 mA, V_{CC} = 30 V)	Q_T	—	30	nC

[1] Pulse Test: PW ≤ 300 μs, Duty Cycle ≤ 2%