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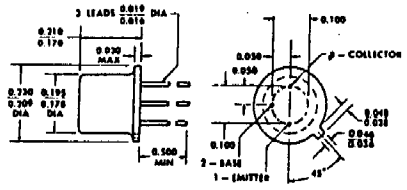
N-P-N EPITAXIAL PLANAR SILICON TRANSISTOR



THE COLLECTOR IS IN ELECTRICAL CONTACT WITH THE CASE.

ALL JEDEC TO-18 DIMENSIONS AND NOTES ARE APPLICABLE.

DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED

absolute maximum ratings at 25°C free-air temperature (unless otherwise noted)

Collector-Base Voltage	15 v
Collector-Emitter Voltage (See Note 1)	6 v
Emitter-Base Voltage	4 v
Continuous Device Dissipation at (or below) 25°C Free-Air Temperature (See Note 2)	0.3 w
Continuous Device Dissipation at (or below) 100°C Case Temperature (See Note 3)	0.5 w
Storage Temperature Range	−65°C to +200°C
Lead Temperature 1/16 Inch from Case for 10 Seconds	300°C

electrical characteristics at 25°C free-air temperature (unless otherwise noted)

PARAMETER		TEST CONDITIONS	MIN	MAX	UNIT
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage	$I_C=10\ \mu a$, $I_E=0$	15		v
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	$I_C=10$ ma, $I_B=0$, See Note 4	6		v
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	$I_E=10\ \mu a$, $I_C=0$	4		v
I_{CBO}	Collector Cutoff Current	$V_{CB}=5$ v, $I_E=0$		50	na
		$V_{CB}=5$ v, $I_E=0$, $T_A=125°C$		5	μa
h_{FE}	Static Forward Current Transfer Ratio	$V_{CE}=0.5$ v, $I_C=10$ ma, See Note 4	30	90	
		$V_{CE}=1$ v, $I_C=30$ ma, See Note 4	15		
		$V_{CE}=0.5$ v, $I_C=10$ ma, $T_A=-55°C$, See Note 4	10		
		$V_{CE}=3$ v, $I_C=100\mu a$,	45		
V_{BE}	Base-Emitter Voltage	$I_B=0.15$ ma, $I_C=3$ ma	0.7	0.85	v
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_B=0.15$ ma, $I_C=3$ ma		0.3	v
f_T	Transition Frequency	$V_{CE}=4$ v, $I_C=5$ ma, See Note 5	600		Mc
C_{obo}	Common-Base Open-Circuit Output Capacitance	$V_{CB}=5$ v, $I_E=0$, f=140 kc		3	pf
C_{ibo}	Common-Base Open-Circuit Input Capacitance	$V_{EB}=0.5$ v, $I_C=0$, f=140 kc		2	pf

NOTES: 1. This value applies when the base-emitter diode is open circuited.

2. Derate linearly to 200°C free-air temperature at the rate of 1.71 mw/C°.

3. Derate linearly to 200°C case temperature at the rate of 5 mw/C°.

4. These parameters must be measured using pulse techniques. PW = 300 μsec, Duty Cycle ≤ 2%.

5. To obtain f_T, the $|h_{fe}|$ response with frequency is extrapolated at the rate of −6db per octave from f = 100 Mc to the frequency at which $|h_{fe}| = 1$.

Quality Semi-Conductors