New Jersey Semi-Conductor Products, Inc.

20 STERN AVE.
SPRINGFIELD, NEW JERSEY 07081
U.S.A.

TELEPHONE: (973) 376-2922
(212) 227-6005
FAX: (973) 376-8960

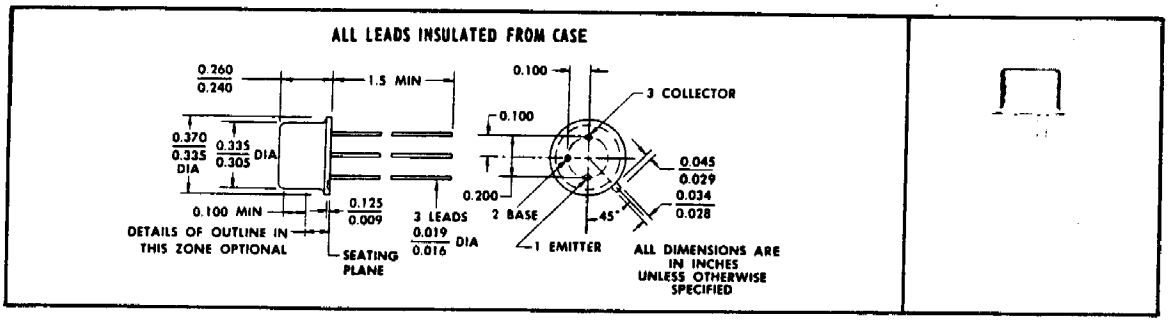
2N337

FOR SWITCHING AND GENERAL PURPOSE APPLICATIONS

- **Guaranteed 20-55 DC Beta**
- **10 mc min Alpha-Cutoff**
- **Low Collector Capacity**
- **High Gain at Low Levels**

mechanical data

Welded case with glass-to-metal hermetic seal between case and leads. Unit weight is approximately 1 gram. All JEDEC TO-5 dimensions and notes are applicable.



absolute maximum ratings at 25°C ambient temperature (unless otherwise noted)

Collector-Base Voltage	45 v
Collector-Emitter Voltage	30 v
Collector Current	20 ma
Emitter Current	20 ma
*Total Device Dissipation (Derate 1mw/°C for Advanced Temperatures)	125 mw
Storage Temperature Range	−65°C to +150°C

electrical characteristics at 25°C ambient temperature (unless otherwise noted)

	parameters	test conditions	min	typ	max	unit
I_{CBO}	Collector Reverse Current	$V_{CB} = 20$ v $I_E = 0$	—	—	1	μa
I_{CBO}	Collector Reverse Current	$V_{CB} = 20$ v $I_E = 0$ $T_A = 150°$ C	—	—	100	μa
BV_{CBO}	Collector-Base Breakdown Voltage	$I_C = 50\ \mu$a $I_E = 0$	45	—	—	v
BV_{CEO}	Collector-Emitter Breakdown Voltage	$I_C = 100\ \mu$a $I_B = 0$	30	—	—	v
BV_{EBO}	Emitter-Base Breakdown Voltage	$I_E = 50\ \mu$a $I_C = 0$	1	—	—	v
h_{ib}	A-C Common-Base Input Impedance	$V_{CB} = 20$ v $I_E = -1$ ma $f = 1$ kc	30	50	80	ohm
h_{ob}	A-C Common-Base Output Admittance	$V_{CB} = 20$ v $I_E = -1$ ma $f = 1$ kc	—	0.2	1	μmho
h_{rb}	A-C Common-Base Reverse-Voltage Transfer Ratio	$V_{CB} = 20$ v $I_E = -1$ ma $f = 1$ kc	—	200	2000	x10^{-6}
h_{fb}	A-C Common-Base Forward-Current Transfer Ratio	$V_{CB} = 20$ v $I_E = -1$ ma $f = 1$ kc	−0.95	−0.985	—	—
h_{FE}*	D-C Forward-Current Transfer Ratio	$V_{CE} = 5$ v $I_C = 10$ ma	20	—	55	—
$\lvert h_{fe} \rvert$	A-C Common-Emitter Forward Current Transfer Ratio	$V_{CB} = 20$ v $I_E = -1$ ma $f = 2.5$ mc	14	22	—	db
$f_{\alpha b}$	Common-Base Alpha-Cutoff Frequency	$V_{CB} = 20$ v $I_E = -1$ ma	10	20	—	mc
C_{ob}	Common-Base Output Capacitance	$V_{CB} = 20$ v $I_E = 0$ $f = 1$ mc	—	2	3	$\mu\mu$f
$r_{CE(Sat)}$*	D-C Common-Emitter Saturation Resistance	$I_B = 1$ ma $I_C = 10$ ma	—	80	150	ohm

switching characteristics

t_{ON}	Turn-on Time [Includes delay time (t_d)]	Test Circuit No. 3	—	0.05	—	μsec
t_s	Storage Time		—	0.02	—	μsec
t_f	Fall Time		—	0.08	—	μsec

*Semiautomatic testing is facilitated by using pulse techniques to measure these parameters. A 300-microsecond pulse (approximately 2% duty cycle) is utilized. Thus, the unit can be tested under maximum current conditions without a significant increase in junction temperature. The parameter values obtained in this manner are particularly pertinent for switching-circuit design and, in general, indicate the true capabilities of the device.