

TYPE 2N336 N-P-N GROWN-JUNCTION SILICON TRANSISTOR

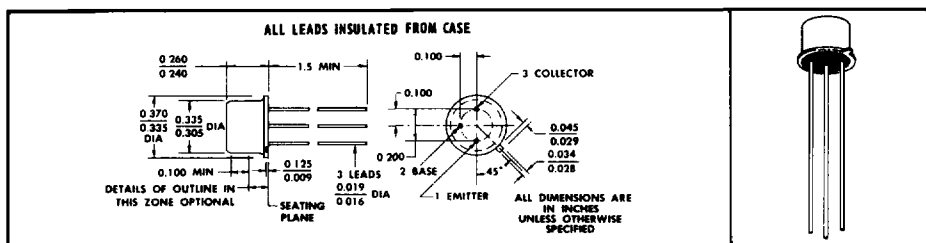
BULLETIN NO. DL-S 591039, MARCH 1959

Beta From 76 to 333

Specifically designed for high gain at high temperatures

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 [except where advanced temperatures are indicated]

Collector Voltage Referred to Base	45 V
Emitter Voltage Referred to Base	1 V
Collector Current	25 mA
Emitter Current	25 mA
Device Dissipation	150 mW
at 100°C	100 mW
at 150°C	50 mW

junction temperature

Maximum Range	−65°C to +175°C
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common base design characteristics at $T_j = 25^\circ\text{C}$ [except where advanced temperatures are indicated]

		test conditions	min.	design center	max.	unit
BV_{CEO}	Collector Breakdown Voltage	$I_C = 50\mu\text{A}$ $I_E = 0$	45			Volt
I_{CO}	Collector Cutoff Current	$V_{CB} = 30\text{V}$ $I_E = 0$			2	μA
	at 100°C	$V_{CB} = 5\text{V}$ $I_E = 0$			10	μA
	at 150°C	$V_{CB} = 5\text{V}$ $I_E = 0$			50	μA
h_{ie}	Input Impedance	$V_{CB} = 5\text{V}$ $I_E = -1\text{mA}$	30	55	80	Ohm
h_{ob}	Output Admittance	$V_{CB} = 5\text{V}$ $I_E = -1\text{mA}$	0	0.25	1.2	μmho
h_{re}	Feedback Voltage Ratio	$V_{CB} = 5\text{V}$ $I_E = -1\text{mA}$	0	700	1000	$\times 10^{-4}$
h_{fe}	Current Transfer Ratio	$V_{CB} = 5\text{V}$ $I_E = -1\text{mA}$	−0.987	−0.99	−0.997	
NF	Noise Figure*	$V_{CB} = 5\text{V}$ $I_E = -1\text{mA}$		20	30	db
f_{α}	Frequency Cutoff	$V_{CB} = 5\text{V}$ $I_E = -1\text{mA}$	2	13		mc
C_{ob}	Output Capacitance (1mc)	$V_{CB} = 5\text{V}$ $I_E = -1\text{mA}$		10	30	μmf
R_{cs}	Saturation Resistance*	$I_E = 2.2\text{mA}$ $I_C = 5\text{mA}$		70	200	Ohm

* Common Emitter

† $f = 1\text{kc}$

‡ Conventional Noise—Compared to 1000 ohm resistor, 1000 cps and 1 cycle band width