

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

**TYPES 2N342B AND 2N343B**  
**N-P-N GROWN-JUNCTION SILICON TRANSISTORS**

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

**1 watt at 25°C Case Temperature**  
**Guaranteed - 55°C, 25°C, 125°C Beta**  
**Designed for**  
**Audio and Servo Amplifier Stages**

**environmental tests**

Each unit is heat cycled from  $-65^{\circ}$  to  $+175^{\circ}$  for ten cycles. A rigorous tumbling test subjects each unit to 12 mechanical shocks of up to 500 G's to ensure mechanical reliability. Each unit is thor-

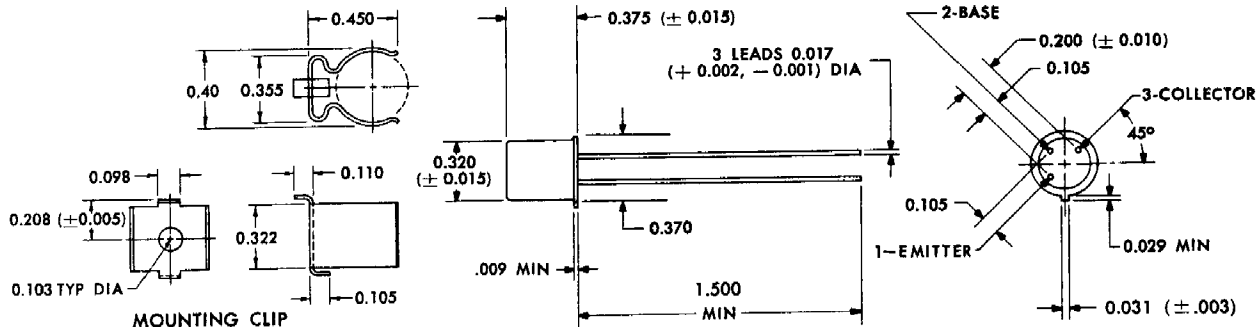
oughly tested to determine the electrical characteristics. Production samples are life tested at regularly scheduled periods to ensure maximum reliability under extreme operating conditions.

**mechanical data**

The transistor is in a JEDEC TO-11 hermetically sealed, welded package with glass-to-metal hermetic seal between case and leads. Approximate weight is 2.0 grams. The noninsulated mounting

clip (TI P/N 354001-99) is provided with each transistor. It is suitable for applications where thermal dissipation to a heat sink is desired. Material: beryllium copper, cadmium plated-gold iridited.

THE EMITTER IS IN ELECTRICAL CONTACT WITH THE CASE



DIMENSIONS IN INCHES - MAXIMUM UNLESS OTHERWISE NOTED

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

	2N342B	2N343B
Collector-Base Voltage	85v	65v
Collector-Emitter Voltage	85v	65v
Emitter-Base Voltage	2v	2v
Total device dissipation at case temperature 25°C (see note 1)	1000 mw	
Total device dissipation at 25°C ambient (see note 2)	750 mw	
Storage Temperature Range	$-65^{\circ}\text{C}$ to $150^{\circ}\text{C}$	

Note 1: Derate linearly to  $150^{\circ}\text{C}$  case temperature at the rate of 8.0 mw/ $^{\circ}\text{C}$ .

Note 2: Derate linearly to  $150^{\circ}\text{C}$  ambient temperature at the rate of 6.0 mw/ $^{\circ}\text{C}$ .



NJ Semi-Conductors reserves the right to change test conditions, parameter limits and package dimensions without notice. Information furnished by NJ Semi-Conductors is believed to be both accurate and reliable at the time of going to press. However NJ Semi-Conductors assumes no responsibility for any errors or omissions discovered in its use. NJ Semi-Conductors encourages customers to verify that datasheets are current before placing orders.

# TYPES 2N342B AND 2N343B

## N-P-N GROWN-JUNCTION SILICON TRANSISTORS

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

PARAMETER	TEST CONDITION	2N342B		2N343B		UNIT
		MIN	MAX	MIN	MAX	
$I_{CBO}$ Collector Reverse Current	$V_{CB} = 30v$ $I_E = 0$		1		1	$\mu A$
$I_{CBO}$ Collector Reverse Current	$V_{CB} = 30v$ $I_E = 0$ $T_A = 150^\circ$		50		50	$\mu A$
$I_{CBO}$ Collector Reverse Current	$V_{CB} = 65v$ $I_E = 0$				50	$\mu A$
$I_{CBO}$ Collector Reverse Current	$V_{CB} = 85v$ $I_E = 0$		50			$\mu A$
$I_{CEO}$ Collector Reverse Current	$V_{CE} = 65v$ $I_B = 0$				100	$\mu A$
$I_{CEO}$ Collector Reverse Current	$V_{CE} = 85v$ $I_B = 0$		100			$\mu A$
$I_{EBO}$ Emitter Reverse Current	$V_{EB} = 2v$ $I_C = 0$		100		100	$\mu A$
$h_{FE}$ A-C Common-Emitter Forward Current Transfer Ratio	$V_{CE} = 10v$ $I_E = -5\text{ ma}$ $T_A = -55^\circ C$ $f = 1\text{ kc}$	9	32	24	90	
	$V_{CE} = 10v$ $I_E = -5\text{ ma}$ $T_A = 25^\circ C$ $f = 1\text{ kc}$	9	32	28	90	
	$V_{CE} = 10v$ $I_E = -5\text{ ma}$ $T_A = 125^\circ C$ $f = 1\text{ kc}$	9	32	28	90	
$h_{FE}$ A-C Common-Emitter Forward Current Transfer Ratio	$V_{CE} = 5v$ $I_E = -1\text{ ma}$ $f = 1\text{ kc}$	7	32	20	90	
$h_{ie}$ A-C Common-Emitter Input Resistance	$V_{CE} = 10v$ $I_E = -5\text{ ma}$ $f = 1\text{ kc}$		500		1000	ohms
$h_{ib}$ A-C Common-Base Input Resistance	$V_{CB} = 10v$ $I_E = -5\text{ ma}$ $f = 1\text{ kc}$		30		30	ohms
$h_{rb}$ A-C Common-Base Reverse Voltage Transfer Ratio	$V_{CB} = 10v$ $I_E = -5\text{ ma}$ $f = 1\text{ kc}$		300		300	ohms
$h_{ob}$ A-C Common-Base Output Admittance	$V_{CB} = 10v$ $I_E = -5\text{ ma}$ $f = 1\text{ kc}$		2		2	$\mu mho$
$C_{ob}$ Common Base Output Capacitance	$V_{CB} = 10v$ $I_E = 0$ $f = 1\text{ kc}$		20		20	$\mu\mu f$
$r_{cs}$ Saturation Resistance	$I_C = 20\text{ ma}$ $I_E = 3\text{ ma}$		200		200	ohms