New Jersey Semi-Conductor Products, Inc.

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

TELEPHONE: (973) 376-2922

2N2369A

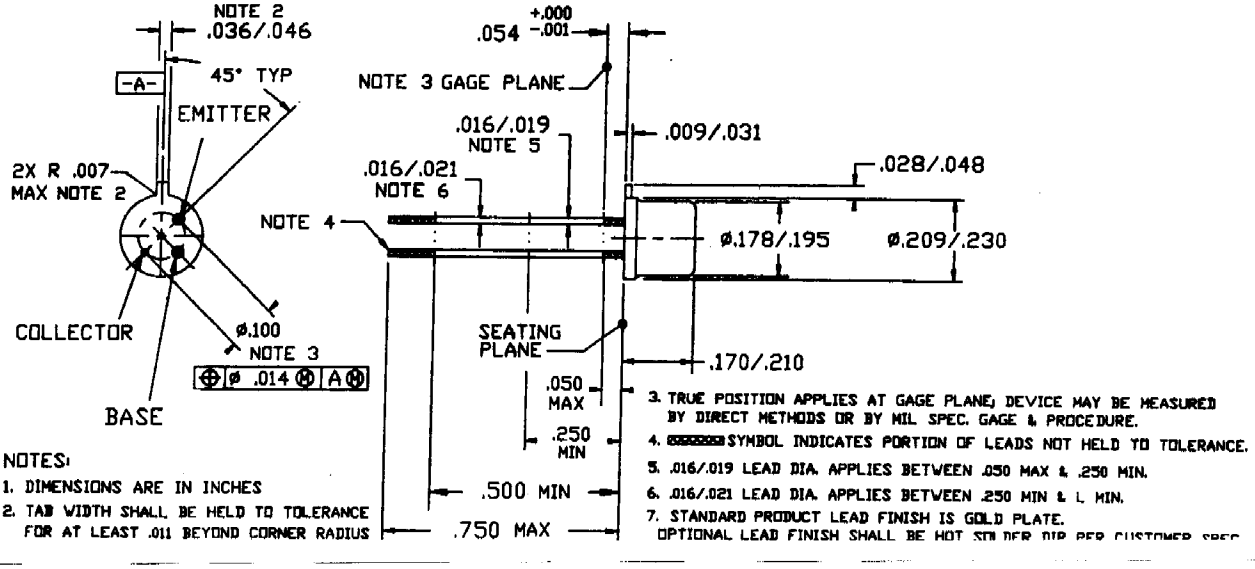
40 Volts
200mAmps

NPN
BIPOLAR
TRANSISTOR

Maximum Ratings

RATING	SYMBOL	MAX.	UNIT
Collector-Emitter Voltage	V_{CEO}	15	Vdc
Collector-Emitter Voltage	V_{CES}	40	Vdc
Collector-Base Voltage	V_{CBO}	40	Vdc
Emitter-Base Voltage	V_{EBO}	4.5	Vdc
Collector Current – Continuous	I_C	200	mA
Total Device Dissipation @ T_A = 25°C Derate above 25°C	P_D	 0.36 2.06	 Watt mW/°C
Total Device Dissipation @ T_C = 25°C Derate above 25°C	P_D	 1.2 6.85	 Watt mW/°C
Operating Temperature Range	T_J	-65 + 200	°C
Storage Temperature Range	T_S	-65 + 200	°C
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	486	°C/W
Thermal Resistance, Junction to Case	$R_{\theta JC}$	146	°C/W

Mechanical Outline



NOTES:
1. DIMENSIONS ARE IN INCHES
2. TAB WIDTH SHALL BE HELD TO TOLERANCE FOR AT LEAST .011 BEYOND CORNER RADIUS
3. TRUE POSITION APPLIES AT GAGE PLANE, DEVICE MAY BE MEASURED BY DIRECT METHODS OR BY MIL SPEC. GAGE & PROCEDURE.
4. [redacted] SYMBOL INDICATES PORTION OF LEADS NOT HELD TO TOLERANCE.
5. .016/.019 LEAD DIA. APPLIES BETWEEN .050 MAX & .250 MIN.
6. .016/.021 LEAD DIA. APPLIES BETWEEN .250 MIN & L MIN.
7. STANDARD PRODUCT LEAD FINISH IS GOLD PLATE. OPTIONAL LEAD FINISH SHALL BE HOT SOLDER DIP PER CUSTOMER SPEC.

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

2N2369A

Electrical Parameters (T_A @ 25°C unless otherwise specified)

CHARACTERISTICS	SYMBOL	MIN.	TYP.	MAX.	UNIT
Off Characteristics					
Collector-Emitter Breakdown Voltage (I_C = 10 μA, V_{BE} = 0)	BV_{CES}	40		--	Vdc
Collector-Emitter Sustaining Voltage(1) (I_C = 10mAdc, I_B = 0)	BV_{CEO}	15		--	Vdc
Collecter-Base Breakdown Voltage (I_C = 10 μA, I_B = 0)	BV_{CBO}	40		--	Vdc
Emitter-Base Breakdown Voltage (I_C = 10 μA, I_B = 0)	BV_{EBO}	4.5		--	Vdc
Collector Cutoff Current (V_{CB} = 20 Vdc)	I_{CES}	--		0.4	μAdc
Collector Emitter Cutoff Current (V_{CE} = 10 Vdc, V_{BE} = 0.25Vdc) @150C	I_{CEX}	-- --		0.3 30	μAdc
Emitter Base Cutoff Current (V_{EB} = 4 Vdc)	I_{EBO}	--		0.25	μAdc
D.C. Current Gain	h_{FE}				--
(I_C = 10 mAdc, V_{CE} = 1.0 Vdc)		40		120	
(I_C = 10 mAdc, V_{CE} = 1.0 Vdc) @ -55C		20		---	
(I_C = 10 mAdc, V_{CE} = 0.35 Vdc)		40		120	
(I_C = 30 mAdc, V_{CE} = 0.4 Vdc)		30		120	
(I_C = 100 mAdc, V_{CE} = 1.0 Vdc)		20		120	
Collector-Emitter Saturation Voltage(1)	$V_{CE(Sat)}$				Vdc
(I_C = 10 mAdc, I_B = 1.0 mAdc)		--		0.20	
(I_C = 10mAdc, I_B = 1.0 mAdc, T_A = + 125°C)		--		0.30	
(I_C = 30 mAdc, I_B = 3.0 mAdc)		--		0.25	
(I_C = 100 mAdc, I_B = 10 mAdc)		--		0.45	
Base-Emitter Saturation Voltage(1)	$V_{BE(Sat)}$				Vdc
(I_C = 10 mAdc, I_B = 1.0 mAdc)		0.70		0.85	
(I_C = 10 mAdc, I_B = 1.0 mAdc, T_A = + 125°C)		0.59		--	
(I_C = 10 mAdc, I_B 1.0 mAdc, T_A = -55°C)		--		1.02	
(I_C = 30 mAdc, I_B = 3.0 mAdc)		--		0.9	
(I_C = 100 mAdc, I_B = 10 mAdc)		--		1.20	
Small-signal short-circuit forward-current transfer ratio (I_C = 10 mAdc, V_{CE} = 10 Vdc, f = 100 MHz)	$\lvert h_{fe} \rvert$	5		10	
Output Capacitance (V_{CB} = 5.0 Vdc, I_E = 0, f = 1.0 MHz)	C_{OBO}	--		4.0	pf
Input Capacitance (V_{EB} = 1.0 Vdc, I_C = 0, f = 1.0 MHz)	C_{IBO}	--		5.0	pf
Switching Speeds, Turn-on Time					ns
Storage Time	t_s	--		13	
Turn-on Time	t_{on}	--		12	
Turn-off Time	t_{off}	--		18	

(1) Pulse Test: Pulse Width ≤ 300 ms, Duty Cycle ≤ 2.0 %.