

2N2369A

Features

- Meets MIL-S-19500/317
- Collector-Base Voltage 40V
- Collector Current: 200 mA
- Fast Switching 30 nS

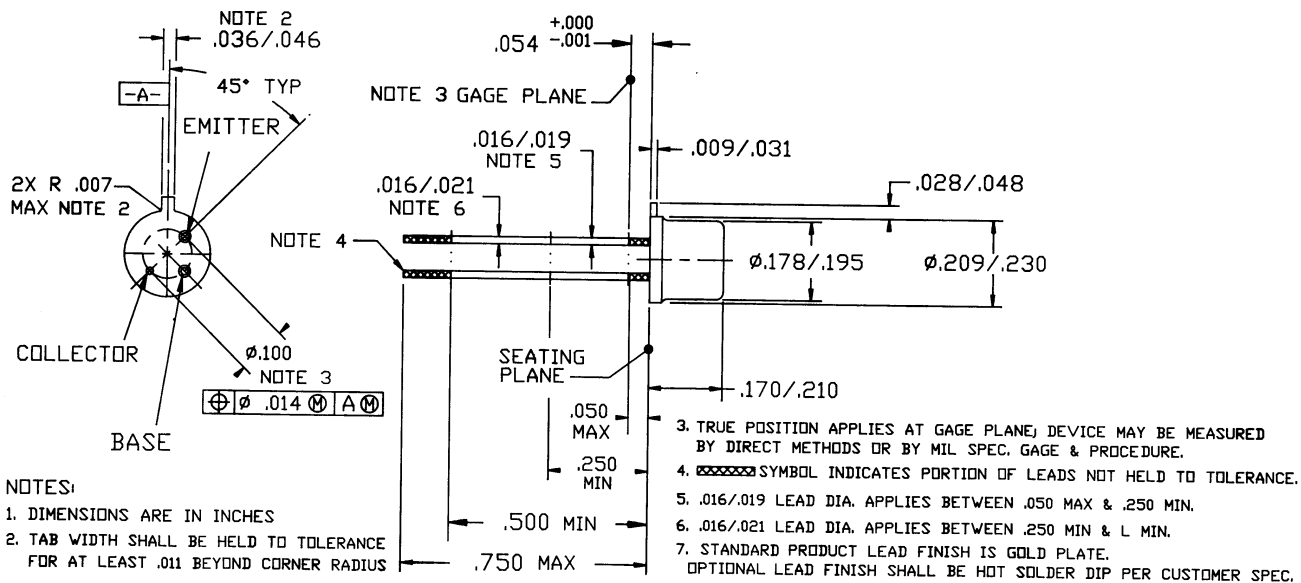
**40 Volts
 200mAmps**

**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 @ $T_A = 25^\circ\text{C}$ Derate above 25°C	P_D	0.36 2.06	Watt mW/ $^\circ\text{C}$
Total Device Dissipation @ $T_C = 25^\circ\text{C}$ Derate above 25°C	P_D	1.2 6.85	Watt mW/ $^\circ\text{C}$
Operating Temperature Range	T_J	-65 + 200	$^\circ\text{C}$
Storage Temperature Range	T_S	-65 + 200	$^\circ\text{C}$
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	486	$^\circ\text{C/W}$
Thermal Resistance, Junction to Case	$R_{\theta JC}$	146	$^\circ\text{C/W}$

Mechanical Outline



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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
Collector-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 (I _C = 10 mAdc, V _{CE} = 1.0 Vdc) (I _C = 10 mAdc, V _{CE} = 1.0 Vdc) @ -55C (I _C = 10 mAdc, V _{CE} = 0.35 Vdc) (I _C = 30 mAdc, V _{CE} = 0.4 Vdc) (I _C = 100 mAdc, V _{CE} = 1.0 Vdc)	h_{FE}	40 20 40 30 20		120 --- 120 120 120	--
Collector-Emitter Saturation Voltage(1) (I _C = 10 mAdc, I _B = 1.0 mAdc) (I _C = 10mAdc, I _B = 1.0 mAdc, T _A = + 125°C) (I _C = 30 mAdc, I _B = 3.0 mAdc) (I _C = 100 mAdc, I _B = 10 mAdc)	V_{CE(Sat)}	--		0.20 0.30 0.25 0.45	Vdc
Base-Emitter Saturation Voltage(1) (I _C = 10 mAdc, I _B = 1.0 mAdc) (I _C = 10 mAdc, I _B = 1.0 mAdc, T _A = + 125°C) (I _C = 10 mAdc, I _B 1.0 mAdc, T _A = -55°C) (I _C = 30 mAdc, I _B = 3.0 mAdc) (I _C = 100 mAdc, I _B = 10 mAdc)	V_{BE(Sat)}	0.70 0.59		0.85 -- 1.02 0.9 1.20	Vdc
Small-signal short-circuit forward-current transfer ratio (I _C = 10 mAdc, V _{CE} = 10 Vdc, f = 100 MHz)	/h_{fe}/	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 Storage Time Turn-on Time Turn-off Time	t_s t_{on} t_{off}	--		13 12 18	ns

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