Watertown, MA
Microsemi
Progress Powered by Technology

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Watertown, MA 02172
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2N2369A

Features

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

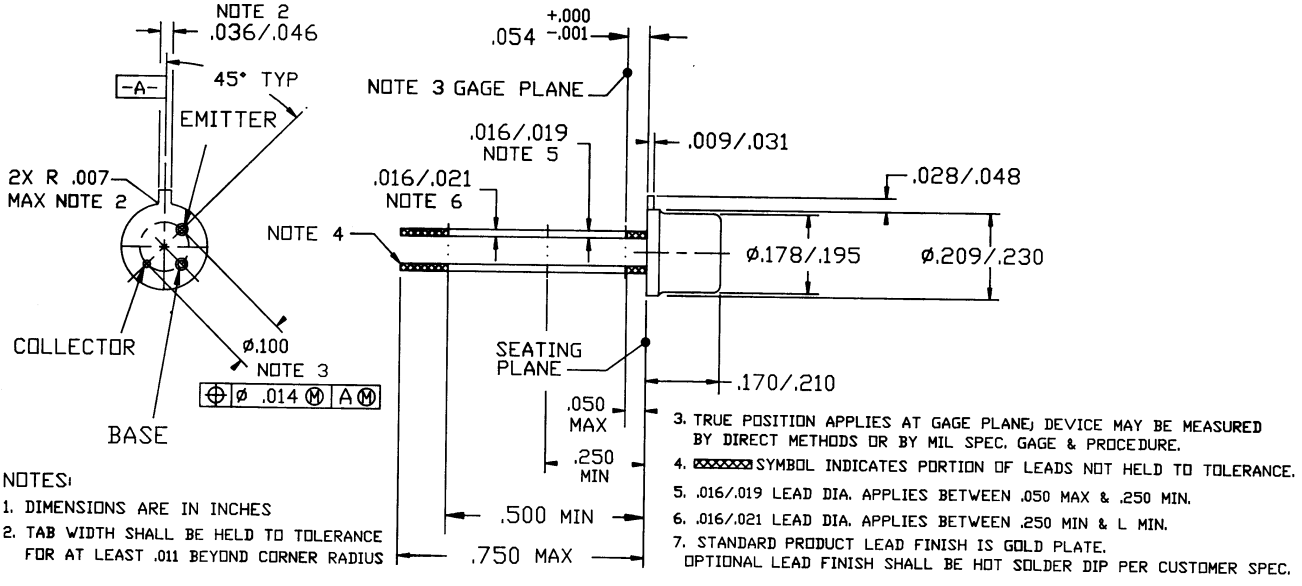
40 Volts
200mAmps

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°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



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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
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)	$\|h_{fe}\|$	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					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 %.

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