

2N2907A

60 Volts
0.6 Amps

PNP
BIPOLAR
TRANSISTOR

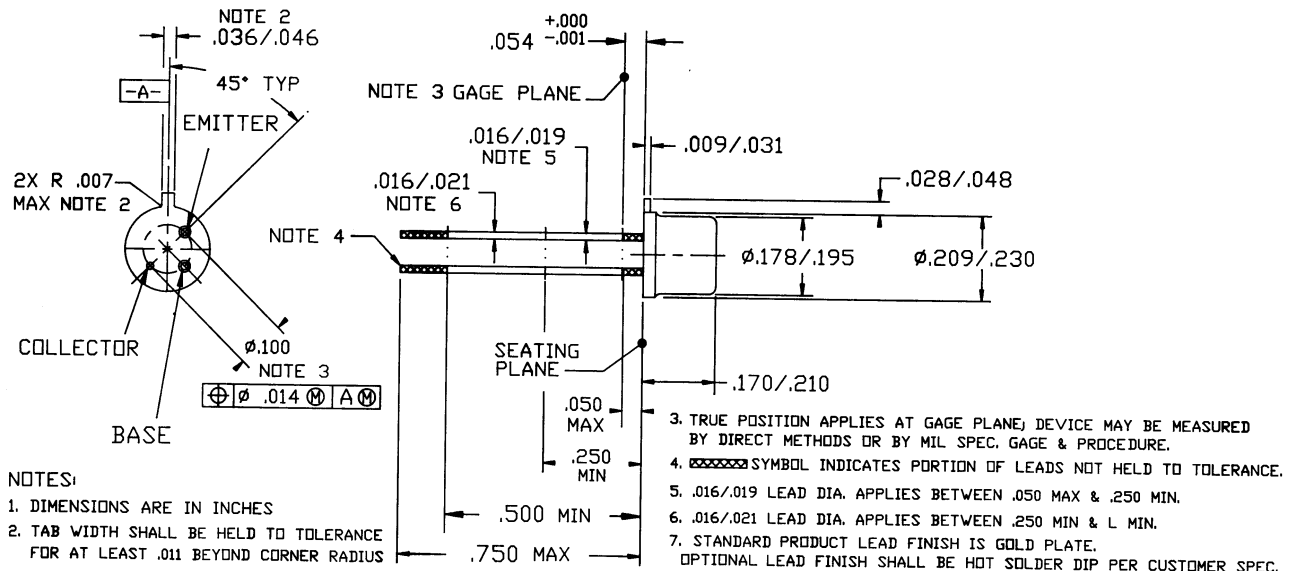
Features

- Meets MIL-S-19500/291
- Collector-Base Voltage 60V
- Collector Current: 600 mAdc
- Fast Switching 345 nS

Maximum Ratings

RATING	SYMBOL	MAX.	UNIT
Collector-Emitter Voltage	V_{CEO}	-60	Vdc
Collector-Base Voltage	V_{CBO}	-60	Vdc
Emitter-Base Voltage	V_{EBO}	-5.0	Vdc
Collector Current--Continuous	I_C	-600	mAdc
Total Device Dissipation @ $T_A = 25^\circ\text{C}$ Derate above 25°C	P_D	400 2.28	mW mW/ $^\circ\text{C}$
Total Device Dissipation @ $T_C = 25^\circ\text{C}$ Derate above 25°C	P_D	1.8 10.3	Watts mW/ $^\circ\text{C}$
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	438	$^\circ\text{C/W}$
Thermal Resistance, Junction to Case	$R_{\theta JC}$	97	$^\circ\text{C/W}$
Operating Temperature Range	T_J	-65 to +200	$^\circ\text{C}$
Storage Temperature Range	T_S	-65 to +200	$^\circ\text{C}$

Mechanical Outline



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

CHARACTERISTICS	SYMBOL	MIN.	TYP.	MAX.	UNIT
Off Characteristics					
Collector-Emitter Breakdown Voltage(1) (I _C = -10 mAdc, I _B = 0)	BV_{CEO}	-60	--	--	Vdc
Collector Base Breakdown Voltage (I _C = -10 μAdc, I _E = 0)	BV_{CB0}	-60	--	--	Vdc
Emitter-Base Breakdown Voltage (I _E = -10 μAdc, I _C = 0)	BV_{EBO}	-5.0	--	--	Vdc
Collector Cutoff Current (V _{CE} = -50 Vdc)	I_{CES}	--	--	-50	nAdc
Collector Cutoff Current (V _{CB} = -50 Vdc, I _E = 0) (V _{CB} = -50 Vdc, I _E = 0, T _A = 150°C)	I_{CBO}	--	--	-0.01 -10	μAdc
Emitter Cutoff Current (V _{EB} = -4 Vdc)	I_{EBO}	--	--	-50	nAdc
D.C. Current Gain (I _C = -0.1 mAdc, V _{CE} = -10Vdc) (I _C = -1.0 mAdc, V _{CE} = -10Vdc) (I _C = -10 mAdc, V _{CE} = -10Vdc) (I _C = -150 mAdc, V _{CE} = -10Vdc)(1) (I _C = -500 mAdc, V _{CE} = -10Vdc)(1) (I _C = -10mAdc, V _{CE} = -10Vdc) T _A = -55°C	h_{FE}	75 100 100 100 50 50	-- -- -- -- -- --	-- 450 -- 300 -- --	--
Collector-Emitter Saturation Voltage(1) (I _C = -150 mAdc, I _B = -15 mAdc) (I _C = -500 mAdc, I _B = -50 mAdc)	V_{CE(Sat)}	-- --	-- --	-0.4 -1.6	Vdc
Base-Emitter Saturation Voltage (I _C = -150 mAdc, I _B = -15 mAdc) (I _C = -500 mAdc, I _B = -50 mAdc)	V_{BE(Sat)}	-0.6 --	-- --	-1.3 -2.6	Vdc
Magnitude of small-signal short circuit forward current transfer ratio (I _C = -50 mAdc, V _{CE} = -20 Vdc, f = 100 MHz)	 h_{fe} 	2	--	--	
Output Capacitance (V _{CB} = -10 Vdc, I _E = 0, 100kHz ≤ f ≤ 1MHz)	C_{OBO}	--	--	8.0	pF
Input Capacitance (V _{EB} = -2.0 Vdc, I _C = 0, 100kHz ≤ f ≤ 1MHz)	C_{IBO}	--	--	30	pF
Switching Speeds					
Turn-on Time (V _{CC} = -30 Vdc, I _C = -150 mAdc, I _{B1} = -15 mAdc)	t_{ON}	--		45	ns
Turn-off Time (V _{CC} = -6.0 Vdc, I _C = -150 mAdc, I _{B1} = I _{B2} = -15 mAdc)	t_{off}	--		300	ns

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



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