Watertown, MA
Microsemi
Progress Powered by Technology

580 Pleasant St.
Watertown, MA 02172
PH: (617) 926-040
FAX: (617) 924-1235

2N2905A

Features

- Meets MIL-S-19500/290
- Collector-Base Voltage 60V
- Collector Current: 600 mA
- Fast Switching 345 nS

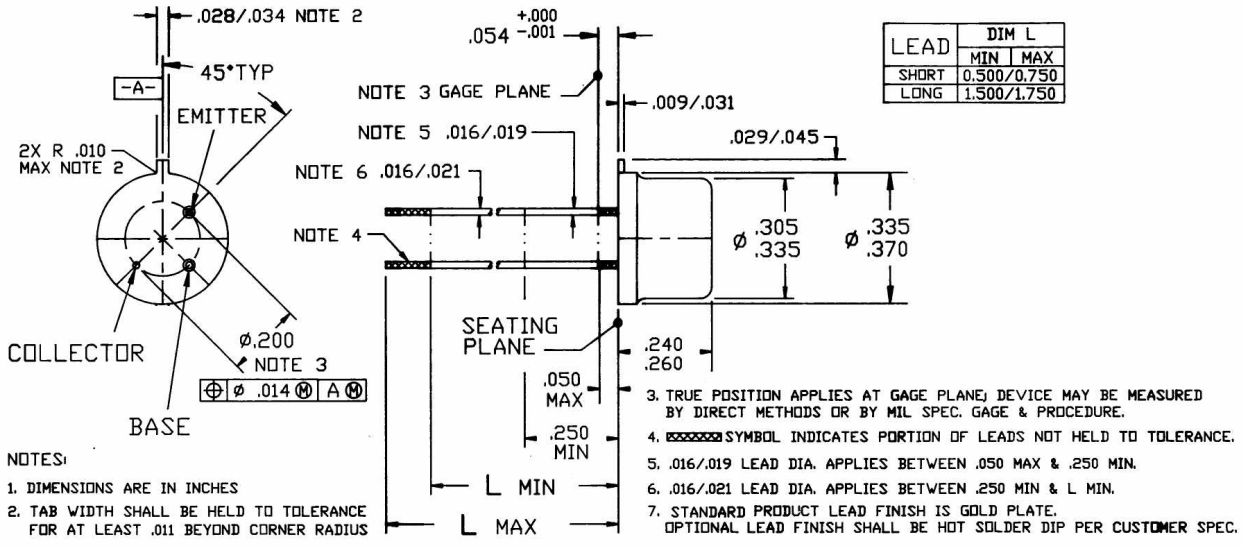
60 Volts
600 mAmps

PNP
BIPOLAR
TRANSISTOR

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 @ $T_A = 25^oC$ Derate above 25^oC	P_D	 600 3.43	 mW $mW/^oC$
Total Device Dissipation @ $T_C = 25^oC$ Derate above 25^oC	P_D	 3.0 17.2	 W $mW/^oC$
Operating Temperature Range	T_J	-65 to + 200	^oC
Storage Temperature Range	T_S	-65 to + 200	^oC
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	292	$^oC/W$
Thermal Resistance, Junction to Case	$R_{\theta JC}$	58	$^oC/W$

Mechanical Outline



FOR LONG LEAD ADD SUFFIX "L"
ie: 2N2905AL

Microsemi
Watertown, MA
Progress Powered by Technology

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_C = 0)	BV_{CBO}	-60	--	--	Vdc
Emitter-Base Breakdown Voltage (I_E = -10 uAdc, I_C = 0)	BV_{EBO}	-5.0	--	--	Vdc
Collector to Emitter Cutoff Current (VCE = -30 Vdc, VEB = -0.5 Vdc)	I_{CES}	--	--	-1	uAdc
Collector-Base 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 to Base Cutoff Current (V_{EB} = -3.5 Vdc)	I_{EBO}	--	--	-50	nAdc
D.C. Current Gain (I_C = -0.1 mAdc, V_{CE} = -10 Vdc) (I_C = -1.0 mAdc, V_{CE} = -10 Vdc) (I_C = -1.0 mAdc, V_{CE} = - 10Vdc) @ -55C (I_C = -10 mAdc, V_{CE} = -10 Vdc) (I_C = -150 mAdc, V_{CE} = -10 Vdc)(1) (I_C = -500 mAdc, V_{CE} = -10 Vdc)(1)	h_{FE}	 75 100 50 100 100 50	 -- -- -- -- -- --	 -- 450 -- -- 300 	--
Collector-Emitter Saturation Voltage (I_C = -150 mAdc, I_B = -15 Vdc) (I_C = -500 mAdc, I_B = -50 Vdc)	$V_{CE(Sat)}$	 -- --	 -- --	 -0.4 -1.6	Vdc
Base-Emitter Saturation Voltage (I_C = -150 mAdc, I_B = -15 Vdc)(1) (I_C = -500 mAdc, I_B = -50 Vdc)(1)	$V_{BE(Sat)}$	 -- --	 -- --	 -1.3 -2.6	Vdc
Small- signal short-circuit forward current transfer ratio (I_C = 1mAdc, V_{CE} = 10V, f = 1 kHz) (I_C = -50 mAdc, V_{CE} = -20 Vdc, f = 100MHz)	h_{fe}	 100 --	 -- --	 -- 2	
Output Capacitance (V_{CB} = -10 Vdc, I_E = 0, 100kHz ≤ f ≤ 1MHz)	C_{OB}	 --	 --	 8.0	pf
Input Capacitance (V_{EB} = -2.0 Vdc, I_C = 0, 100kHz ≤ f ≤ 1MHz)	C_{IB}	 --	 --	 30	pf
Switching Speeds, Turn-on Time Turn-on Time (V_{CC} = -30 Vdc, I_C = -150 mAdc, I_{B1} = -15mAdc)	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%.