



Micro Commercial Components



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20736 Marilla Street Chatsworth
CA 91311
Phone: (818) 701-4933
Fax: (818) 701-4939

2N3501

NPN
BIPOLAR
TRANSISTOR

150 Volts
500mAmps
TO-39 Package

Features

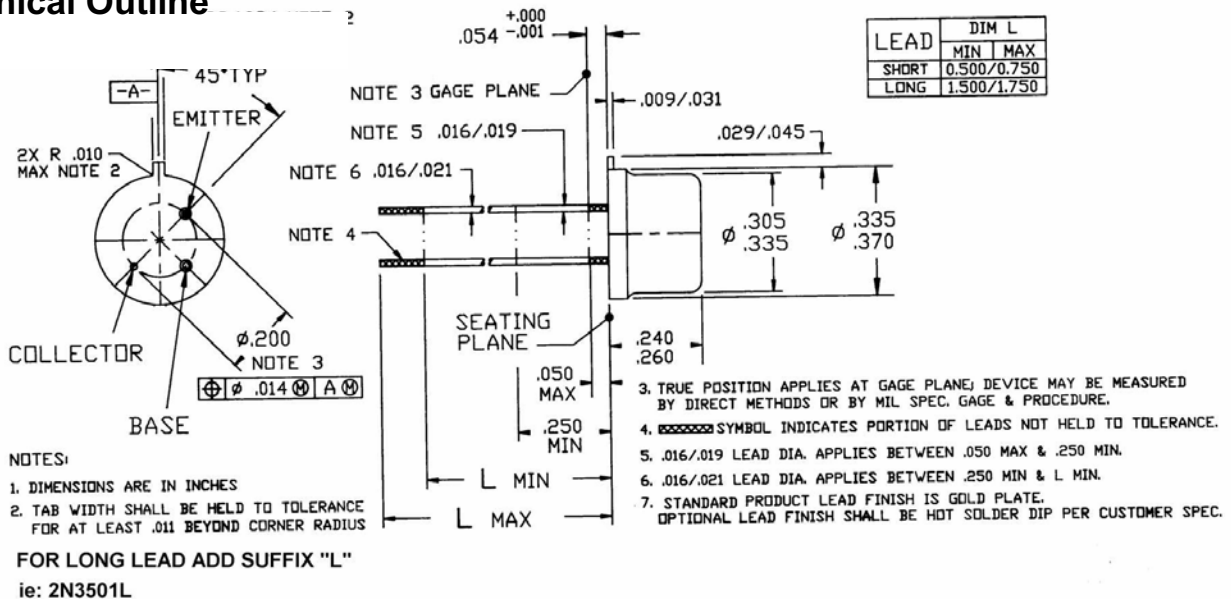
- Meets MIL-S-19500/366
Collector-Base Voltage 150V
Collector Current: 500 mA
Fast Switching 1265 nS
Lead Free Finish/RoHS Compliant(Note 1) ("P" Suffix designates RoHS Compliant. See ordering information)

Maximum Ratings

Table with 4 columns: RATING, SYMBOL, MAX., UNIT. Rows include Collector-Emitter Voltage, Collector-Base Voltage, Emitter-Base Voltage, Collector Current—Continuous, Total Device Dissipation @ TA = 25°C, Total Device Dissipation @ TC = 25°C, Operating Temperature Range, Storage Temperature Range, Thermal Resistance, Junction to Ambient, Thermal Resistance, Junction to Case.

Notes:1.High Temperature Solder Exemption Applied, see EU Directive Annex 7.

Mechanical Outline



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2N3501

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}	150	--	--	Vdc
Collector-Base Breakdown Voltage (I _C = 10 μAdc, I _E = 0)	BV_{CBO}	150	--	--	Vdc
Emitter-Base Breakdown Voltage (I _E = 10 μAdc, I _C = 0)	BV_{EBO}	6.0	--	--	Vdc
Collector Cutoff Current (V _{CB} = 75 Vdc, I _E = 0) (V _{CB} = 75 Vdc, I _E = 0, T _A = 150°C)	I_{CBO}	--	--	0.05 50	μAdc
Emitter Cutoff Current (V _{EB(off)} = 4.0 Vdc, I _C = 0)	I_{EBO}	--	--	25	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 = 10 mAdc, V _{CE} = 10 Vdc)(1) (I _C = 150 mAdc, V _{CE} = 10 Vdc)(1) (I _C = 150 mAdc, V _{CE} = 10Vdc) @ 55°C (I _C = 300 mAdc, V _{CE} = 10 Vdc)(1)	h_{FE}	35 50 75 100 45 20	-- -- -- -- -- --	-- -- -- 300 -- --	--
Collector-Emitter Saturation Voltage(1) (I _C = 10 mAdc, I _B = 1.0 mAdc) (I _C = 150 mAdc, I _B = 15 mAdc)	V_{CE(Sat)}	-- --	-- --	0.2 0.4	Vdc
Base-Emitter Saturation Voltage(1) (I _C = 10 mAdc, I _B = 1.0 mAdc) (I _C = 150 mAdc, I _B = 15 mAdc)	V_{BE(Sat)}	-- --	-- --	0.8 1.2	Vdc
Magnitude of common emitter small-signal short-circuit forward current transfer ratio (V _{CE} = 20 Vdc, I _C = 20 mAdc, f = 100 MHz)	 h_{fe} 	1.5	--	8 --	
Output Capacitance (V _{CB} = 10 Vdc, I _E = 0, 100kHz ≤ f ≤ 1MHz)	C_{OBO}	--	--	8.0	pf
Input Capacitance (V _{EB} = 0.5 Vdc, I _C = 0, 100kHz ≤ f ≤ 100MHz)	C_{IBO}	--	--	80	pf
Small -signal Current Gain (I _C = 10mAdc, V _{CE} = 10Vdc, f = 1.0 kHz)	h_{fe}	75	--	300	
Noise figure (V _{CE} = 10Vdc, I _C = 0.5mAdc; R _g = 1kohms, f = 1MHz)	NF			16	dB
Noise figure (V _{CE} = 10Vdc, I _C = 0.5mAdc; R _g = 1kohms, f = 1MHz)	NF			6	dB
Turn - on time (V _{EB} = 12Vdc, I _C = 150mAdc, I _{B1} = 15mAdc)	t_{on}			115	nS
Turn - off time (I _C = 150mAdc, I _{B1} = I _{B2} = -15mAdc)	t_{off}			1150	nS

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



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Ordering Information :

Device	Packing
Part Number-BP	Bulk; 50pcs/Box

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