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Manufacturers of World Class Discrete Semiconductors

2N3500 2N3501

NPN SILICON TRANSISTOR

JEDEC TO-39 CASE

DESCRIPTION

The CENTRAL SEMICONDUCTOR 2N3500 and 2N3501 types are Silicon NPN Epitaxial Planar Transistors designed for high voltage inductive load switching applications.

MAXIMUM RATINGS (T_A=25°C)

	SYMBOL		<u>UNITS</u>
Collector-Base Voltage	$V_{\sf CBO}$	150	V
Collector-Emitter Voltage	VCEO	150	V
Emitter-Base Voltage	V_{EBO}	6.0	V
Collector Current	IC	300	mA
Power Dissipation	P_{D}	1.0	W
Power Dissipation (T _C =25°C)	P_{D}	5.0	W
Operating and Storage Junction Temperature	T_{J}, T_{stg}	-65 to +200	°C
Thermal Resistance	Θ JA	175	°C/W
Thermal Resistance	ΘlC	35	°C/W

ELECTRICAL CHARACTERISTICS (T_A=25°C unless otherwise noted)

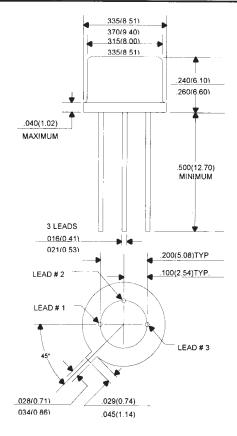
SYMBOL	TEST CONDITIONS	MIN	MAX	<u>UNITS</u>
ICBO	V _{CB} =75V		50	nA
I _{CBO}	V _{CB} =75V, T _A =150°C		50	μΑ
IEBO	V _{EB} =4.0V		25	nA
BVCBO	I _C =10μA	150		V
BVCEO	I _C =10mA	150		V
BVEBO	I _F =10μΑ	6.0		V
VCE(SAT)	I _C =10mA, I _B =1.0mA		0.2	V
VCE(SAT)	I _C =50mA, I _B =5.0mA		0.25	V
VCE(SAT)	I _C =150mA, I _B =15mA		0.4	V
VBE(SAT)	I _C =10mA, I _B =1.0mA		0.8	V
VBE(SAT)	I _C =50mA, I _B =5.0mA		0.9	V
VBE(SAT)	I _C =1,50mA, I _B =15mA		1.2	V

(Continued on Reverse Side)

LELOTRIONE	CONTRACTENIONOS (CONTINUOS)	<u>2N3500</u>	<u>2N3501</u>	
SYMBOL	TEST CONDITIONS	MIN MAX	MIN MAX	UNITS
h _{FE}	V_{CE} =10V, I_{C} =0.1mA	20	35	
hFE	V_{CE} =10V, I_{C} =1.0mA	25	50	
h _{FE}	V _{CE} =10V, I _C =10mA	35	75	
hFE	V _{CE} =10V, I _C =150mA	40 120	100 300	_
hFE	V _{CE} =10V, I _C =300mA	15	20	
f _T	V_{CE} =20V, I_{C} =20mA, f=100MHz	150	150	MHz
C _{ob}	V _{CB} =10V, I _E =0, f=100kHz	8.0	8.0	pF
C _{ib}	V_{EB} =0.5V, I_{C} =0, f=100kHz	80	80	pF
^t d	V _{CC} =100V, I _C =150mA, I _{B1} =15mA	20 TYP	20 TYP	ns
t _r	V _{CC} =100V, I _C =150mA, I _{B1} =15mA	35 TYP	35 TYP	ns
t _s	V _{CC} =100V, I _C =150mA, I _{B1} =I _{B2} =15mA	800 TYP	800 TYP	ns
t _f	V_{CC} =100V, I_{C} =150mA, I_{B1} = I_{B2} =15mA	80 TYP	80 TYP	ns

JEDEC TO-39 CASE - MECHANICAL OUTLINE

All Dimensions in Inches (mm).



Lead Code:

- 1) Emitter
- 2) Base
- 3) Collector



OUTSTANDING SUPPORT AND SUPERIOR SERVICES



PRODUCT SUPPORT

Central's operations team provides the highest level of support to insure product is delivered on-time.

- Supply management (Customer portals)
- · Inventory bonding
- · Consolidated shipping options

- · Custom bar coding for shipments
- · Custom product packing

DESIGNER SUPPORT/SERVICES

Central's applications engineering team is ready to discuss your design challenges. Just ask.

- Free guick ship samples (2nd day air)
- Online technical data and parametric search
- SPICE models
- · Custom electrical curves
- · Environmental regulation compliance
- · Customer specific screening
- · Up-screening capabilities

- Special wafer diffusions
- PbSn plating options
- Package details
- Application notes
- · Application and design sample kits
- · Custom product and package development

REQUESTING PRODUCT PLATING

- 1. If requesting Tin/Lead plated devices, add the suffix "TIN/LEAD" to the part number when ordering (example: 2N2222A TIN/LEAD).
- 2. If requesting Lead (Pb) Free plated devices, add the suffix "PBFREE" to the part number when ordering (example: 2N2222A PBFREE).

CONTACT US

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