

CentralTM Semiconductor Corp.

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Manufacturers of World Class Discrete Semiconductors

www.centrasemi.com

2N5320 2N5321 NPN
2N5322 2N5323 PNP

COMPLEMENTARY SILICON
SWITCHING TRANSISTORS

JEDEC TO-39 CASE

DESCRIPTION

The CENTRAL SEMICONDUCTOR 2N5320 Series types are Complementary Silicon Power Transistors manufactured by the Epitaxial Planar Process, mounted in a hermetically sealed metal case, designed for amplifier and switching applications.

MAXIMUM RATINGS (T_C=25°C unless otherwise noted)

	SYMBOL	2N5320 2N5322	2N5321 2N5323	UNITS
Collector-Base Voltage	V _{CBO}	100	75	V
Collector-Emitter Voltage (V _{BE} =1.5V)	V _{CEV}	100	75	V
Collector-Emitter Voltage	V _{CEO}	75	50	V
Emitter-Base Voltage	V _{EBO}	6.0	5.0	V
Collector Current	I _C	2.0		A
Base Current	I _B	1.0		A
Power Dissipation	P _D	10		W
Operating and Storage Junction Temperature	T _J , T _{stg}	-65 to +200		°C
Thermal Resistance	Θ _{JC}	17.5		°C/W
Thermal Resistance	Θ _{JA}	175		°C/W

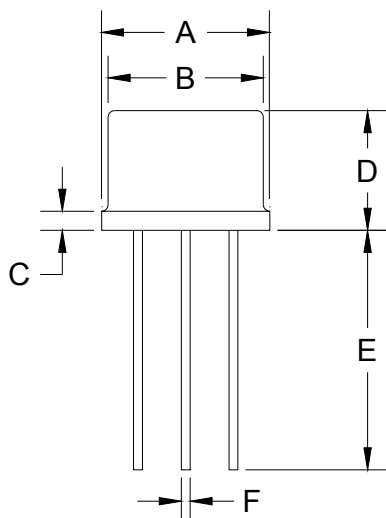
ELECTRICAL CHARACTERISTICS (T_C=25°C unless otherwise noted)

SYMBOL	TEST CONDITIONS	2N5320 2N5322		2N5321 2N5323		UNITS
		MIN	MAX	MIN	MAX	
I _{CBO}	V _{CB} = 80V		0.5		-	μA
I _{CBO}	V _{CB} = 60V		-		5.0	μA
I _{EBO}	V _{EB} =5.0V		0.1		-	μA
I _{EBO}	V _{EB} =4.0V		-		0.5	μA
BV _{CEV}	I _C =0.1mA, V _{BE} =1.5V	100		75		V
BV _{CEO}	I _C =10mA	75		50		V
BV _{EBO}	I _E =0.1mA	6.0		5.0		V
V _{CE} (SAT)	I _C =500mA, I _B =50mA (2N5320)		0.5		-	V
V _{CE} (SAT)	I _C =500mA, I _B =50mA (2N5321)		-		0.8	V
V _{CE} (SAT)	I _C =500mA, I _B =50mA (2N5322)		0.7		-	V
V _{CE} (SAT)	I _C =500mA, I _B =50mA (2N5323)		-		1.2	V
V _{BE} (ON)	V _{CE} =4.0V, I _C =500mA		1.1		1.4	V
h _{FE}	V _{CE} =4.0V, I _C =500mA	30	150	40	250	
h _{FE}	V _{CE} =2.0V, I _C =1.0A	10		-		
f _T	V _{CE} =4.0V, I _C =50mA, f=10MHz	50		50		MHz

(SEE REVERSE SIDE)

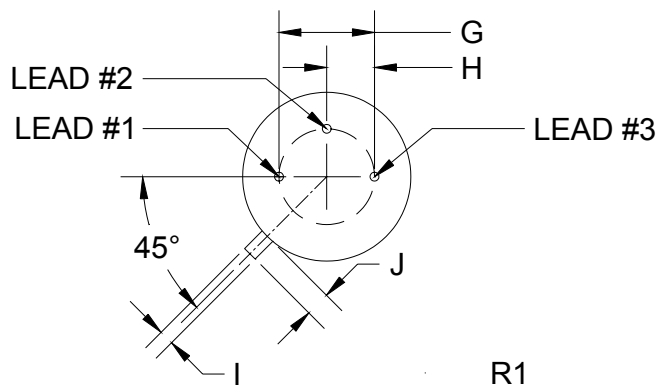
ELECTRICAL CHARACTERISTICS CONTINUED ($T_C=25^\circ\text{C}$ unless otherwise noted)

<u>SYMBOL</u>	<u>TEST CONDITIONS</u>	2N5320 2N5322		2N5321 2N5323		<u>UNITS</u>
		<u>MIN</u>	<u>MAX</u>	<u>MIN</u>	<u>MAX</u>	
t_{on}	$V_{CC}=30\text{V}$, $I_C=500\text{mA}$, $I_{B1}=50\text{mA}$ (2N5320, 2N5321)		80		80	ns
t_{on}	$V_{CC}=30\text{V}$, $I_C=500\text{mA}$, $I_{B1}=50\text{mA}$ (2N5322, 2N5323)		100		100	ns
t_{off}	$V_{CC}=30\text{V}$, $I_C=500\text{mA}$, $I_{B1}=I_{B2}=50\text{mA}$ (2N5320, 2N5321)		800		800	ns
t_{off}	$V_{CC}=30\text{V}$, $I_C=500\text{mA}$, $I_{B1}=I_{B2}=50\text{mA}$ (2N5322, 2N5323)		1000		1000	ns

TO-39 PACKAGE - MECHANICAL OUTLINE

<u>SYMBOL</u>	<u>DIMENSIONS</u>			
	<u>INCHES</u>		<u>MILLIMETERS</u>	
	<u>MIN</u>	<u>MAX</u>	<u>MIN</u>	<u>MAX</u>
A (DIA)	0.335	0.370	8.51	9.40
B (DIA)	0.315	0.335	8.00	8.51
C	-	0.040	-	1.02
D	0.240	0.260	6.10	6.60
E	0.500	-	12.70	-
F (DIA)	0.016	0.021	0.41	0.53
G (DIA)	0.200		5.08	
H	0.100		2.54	
I	0.028	0.034	0.71	0.86
J	0.029	0.045	0.74	1.14

TO-39 (REV: R1)

Lead Code

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

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