Central™
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Manufacturers of World Class Discrete Semiconductors
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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)

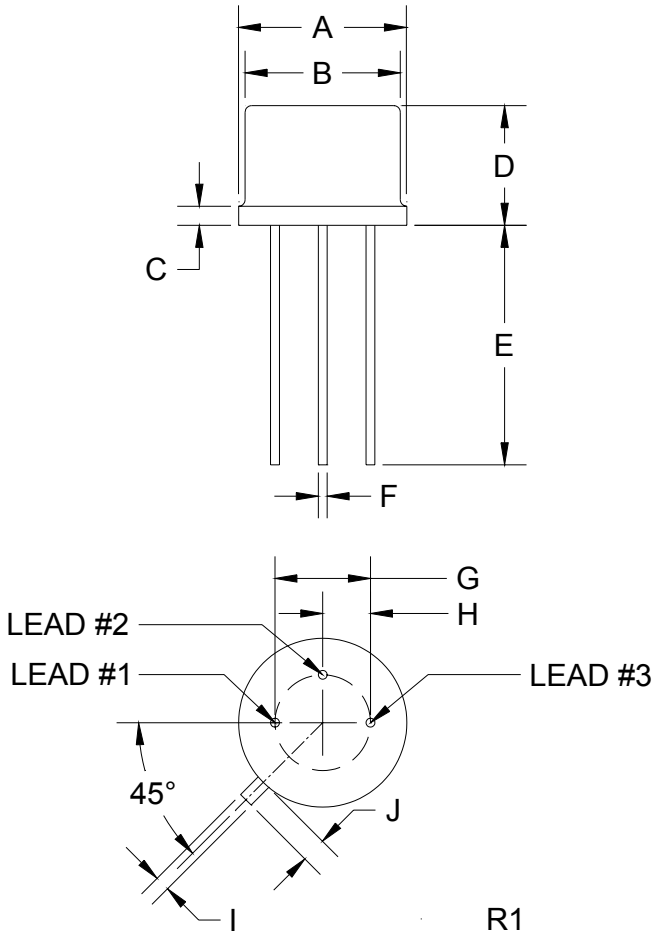
		2N5320 2N5322		2N5321 2N5323		
SYMBOL	TEST CONDITIONS	MIN	MAX	MIN	MAX	UNITS
I_{CBO}	V_{CB}= 80V		0.5		-	μA
I_{CBO}	V_{CB}= 60V		-		5.0	μA
I_{EBO}	V_{EB}=5.0V		0.1		-	μA
I_{EBO}	V_{EB}=4.0V		-		0.5	μA
BV_{CEV}	I_C=0.1mA, V_{BE}=1.5V	100		75		V
BV_{CEO}	I_C=10mA	75		50		V
BV_{EBO}	I_E=0.1mA	6.0		5.0		V
$V_{CE(SAT)}$	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°C unless otherwise noted)

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

TO-39 PACKAGE - MECHANICAL OUTLINE



DIMENSIONS				
	INCHES		MILLIMETERS	
SYMBOL	MIN	MAX	MIN	MAX
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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