

New Jersey Semi-Conductor Products, Inc.

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2N5320 2N5321 NPN
 2N5322 2N5323 PNP

COMPLEMENTARY SILICON
 SWITCHING TRANSISTORS

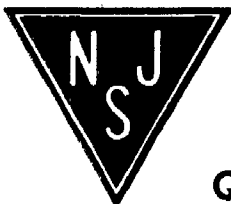
JEDEC TO-39 CASE

MAXIMUM RATINGS ($T_C=25^\circ\text{C}$ unless otherwise noted)

	SYMBOL	2N5320 2N5322	2N5321 2N5323	UNITS
Collector-Base Voltage	V_{CB0}	100	75	V
Collector-Emitter Voltage ($V_{BE}=1.5\text{V}$)	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	$^\circ\text{C}$
Thermal Resistance	θ_{JC}		17.5	$^\circ\text{C/W}$
Thermal Resistance	θ_{JA}		175	$^\circ\text{C/W}$

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

SYMBOL	TEST CONDITIONS	2N5320 2N5322		2N5321 2N5323		UNITS
		MIN	MAX	MIN	MAX	
I_{CBO}	$V_{CB}=80\text{V}$		0.5		-	μA
I_{CBO}	$V_{CB}=60\text{V}$		-		5.0	μA
I_{EBO}	$V_{EB}=5.0\text{V}$		0.1		-	μA
I_{EBO}	$V_{EB}=4.0\text{V}$		-		0.5	μA
BV_{CEV}	$I_C=0.1\text{mA}, V_{BE}=1.5\text{V}$	100		75		V
BV_{CEO}	$I_C=10\text{mA}$	75		50		V
BV_{EBO}	$I_E=0.1\text{mA}$	6.0		5.0		V
$V_{CE(SAT)}$	$I_C=500\text{mA}, I_B=50\text{mA}$ (2N5320)		0.5		-	V
$V_{CE(SAT)}$	$I_C=500\text{mA}, I_B=50\text{mA}$ (2N5321)		-		0.8	V
$V_{CE(SAT)}$	$I_C=500\text{mA}, I_B=50\text{mA}$ (2N5322)		0.7		-	V
$V_{CE(SAT)}$	$I_C=500\text{mA}, I_B=50\text{mA}$ (2N5323)		-		1.2	V
$V_{BE(ON)}$	$V_{CE}=4.0\text{V}, I_C=500\text{mA}$		1.1		1.4	V
h_{FE}	$V_{CE}=4.0\text{V}, I_C=500\text{mA}$	30	130	40	250	
h_{FE}	$V_{CE}=2.0\text{V}, I_C=1.0\text{A}$	10		-		
f_T	$V_{CE}=4.0\text{V}, I_C=50\text{mA}, f=10\text{MHz}$	50		50		MHz

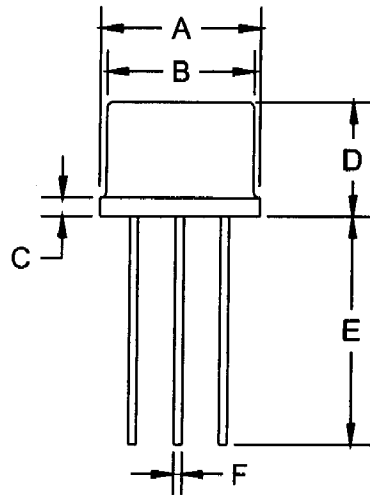


Quality Semi-Conductors

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

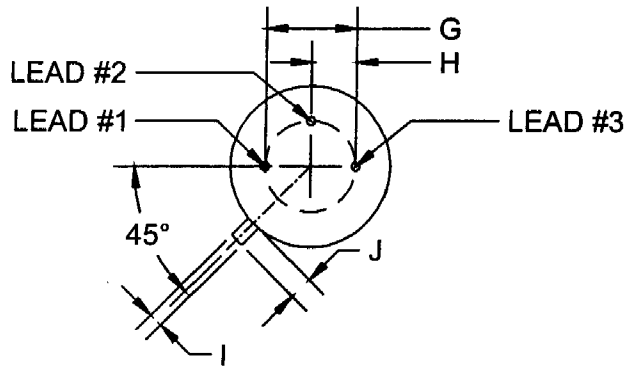
SYMBOL	TEST CONDITIONS	2N5320 2N5322		2N5321 2N5323		UNITS
		MIN	MAX	MIN	MAX	
t_{on}	$V_{CC}=30\text{V}$, $I_C=500\text{mA}$, $I_{B1}=50\text{mA}$ (2N5320, 2N5321)		80	80		ns
t_{on}	$V_{CC}=30\text{V}$, $I_C=500\text{mA}$, $I_{B1}=50\text{mA}$ (2N5322, 2N5323)		100	100		ns
t_{off}	$V_{CC}=30\text{V}$,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



SYMBOL	DIMENSIONS			
	INCHES		MILLIMETERS	
	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)	0.018	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