

NPN 2N5320 – 2N5321

SILICON PLANAR EPITAXIAL TRANSISTORS

The 2N5320 and 2N5321 are NPN transistors mounted in TO-39 metal case .
They are especially intended for high-voltage medium power applications in industrial and commercial equipments.
Compliance to RoHS

ABSOLUTE MAXIMUM RATINGS

Symbol	Ratings		Value	Unit	
V_{CEO}	Collector-Emitter Voltage ($I_B = 0$)	2N5320	75	V	
		2N5321	50		
V_{CBO}	Collector-Base Voltage ($I_E = 0$)	2N5320	100	V	
		2N5321	75		
V_{CEV}	Collector-Emitter Voltage ($V_{BE} = 1.5V$)	2N5320	100	V	
		2N5321	75		
V_{EBO}	Emitter-Base Voltage ($I_C = 0$)	2N5320	6	V	
		2N5321	5		
I_C	Collector Current	2N5320	2	A	
		2N5321			
I_B	Base Current	2N5320	1	A	
		2N5321			
P_D	Total Power Dissipation	@ $T_{amb} = 25^\circ$	2N5320	1	Watts
			2N5321		
		@ $T_{case} = 25^\circ$	2N5320	10	
			2N5321		
T_J	Junction Temperature	2N5320	-65 to +200	$^\circ C$	
		2N5321			
T_{Stg}	Storage Temperature range	2N5320	-65 to +200	$^\circ C$	
		2N5321			

THERMAL CHARACTERISTICS

Symbol	Ratings	Value	Unit
R_{thJ-a}	Thermal Resistance, Junction to ambient	175	$^\circ C/W$
R_{thJ-c}	Thermal Resistance, Junction to case	17.5	$^\circ C/W$

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ELECTRICAL CHARACTERISTICS

TC=25°C unless otherwise noted

Symbol	Ratings	Test Condition(s)	Min	Typ	Max	Unit	
I_{CBO}	Collector Cutoff Current	$V_{CB} = 80\text{ V}, I_E = 0$	2N5320	-	-	0.5	μA
		$V_{CB} = 60\text{ V}, I_E = 0$	2N5321	-	-	5	
I_{EBO}	Emitter Cutoff Current	$V_{EB} = 5\text{ V}, I_C = 0$	2N5320	-	0.1	-	μA
		$V_{EB} = 4\text{ V}, I_C = 0$	2N5321	-	0.5	-	
V_{CEO}	Collector Emitter Breakdown Voltage	$I_C = 10\text{ mA}, I_B = 0$	2N5320	75	-	-	V
			2N5321	50	-	-	
V_{CEV}	Collector Emitter Breakdown Voltage	$I_C = 100\text{ }\mu\text{A}$ $V_{BE} = 1.5\text{ V}$	2N5320	100	-	-	V
			2N5321	75	-	-	
V_{EBO}	Emitter Base Breakdown Voltage	$I_E = 100\text{ }\mu\text{A}, I_C = 0$	2N5320	6	-	-	V
			2N5321	5	-	-	
$h_{FE} (*)$	DC Current Gain	$I_C = 500\text{ mA}$ $V_{CE} = 4\text{ V}$	2N5320	30	-	130	-
			2N5321	40	-	250	
		$I_C = 1\text{ A}$ $V_{CE} = 2\text{ V}$	2N5320	10	-	-	
$V_{CE(SAT)} (*)$	Collector-Emitter saturation Voltage	$I_C = 500\text{ mA}$ $I_B = 50\text{ mA}$	2N5320	-	-	0.5	V
			2N5321	-	-	0.8	
$V_{BE} (*)$	Base-Emitter Voltage	$I_C = 500\text{ mA}$ $V_{CE} = 4\text{ V}$	2N5320	-	-	1.1	V
			2N5321	-	-	1.4	
f_T	Transition frequency	$I_C = 50\text{ mA}$ $V_{CE} = 4\text{ V}$ $f = 10\text{ MHz}$	2N5320	50	-	-	MHz
			2N5321				
t_{on}	Turn-on Time	$I_C = 500\text{ mA}$ $V_{CC} = 30\text{ V}$ $I_{B1} = 50\text{ mA}$	2N5320	-	-	80	ns
			2N5321				
t_{off}	Turn-off Time	$I_C = 500\text{ mA}$ $V_{CC} = 30\text{ V}$ $I_{B1} = -I_{B2} = 50\text{ mA}$	2N5320	-	-	800	ns
			2N5321				

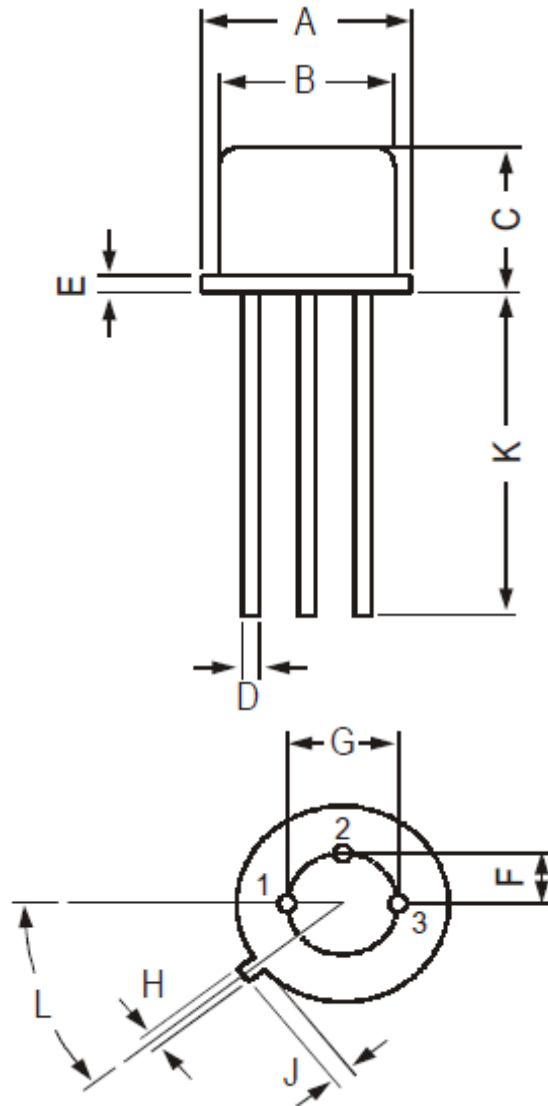
(*) Pulse conditions : $t_p < 300\text{ }\mu\text{s}$, $\delta = 1\%$

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MECHANICAL DATA CASE TO-39

DIMENSIONS (mm)		
	min	max
A	8.50	9.39
B	7.74	8.50
C	6.09	6.60
D	0.40	0.53
E	-	0.88
F	2.41	2.66
G	4.82	5.33
H	0.71	0.86
J	0.73	1.02
K	12.70	-
L	42°	48°

Pin 1 :	Emitter
Pin 2 :	Base
Pin 3 :	Collector
Case :	Collector



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