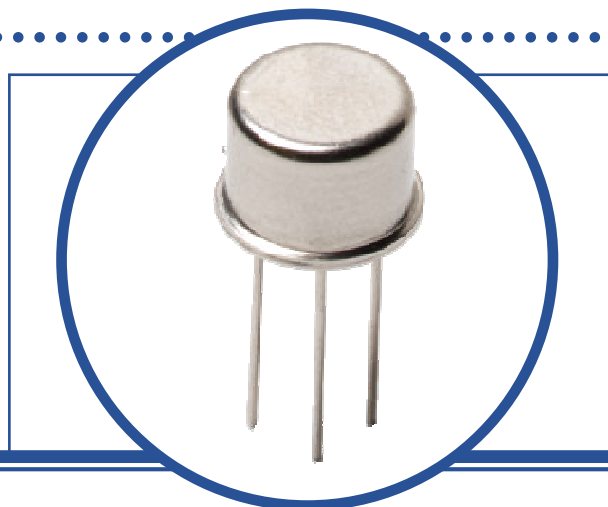


SILICON PLANAR EPITAXIAL NPN TRANSISTOR

2N5320

- Low $V_{CE(sat)}$, h_{FE} 30-130 (@ $V_{CE}=4V$, $I_C=0.5A$)
- Hermetic TO-39 Metal package.
- Ideally Suited For Medium Power Amplifier And Switching Applications
- Screening Options Available



ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ C$ unless otherwise stated)

V_{CBO}	Collector – Base Voltage		100V
V_{CEO}	Collector – Emitter Voltage		75V
V_{EBO}	Emitter – Base Voltage		7V
I_C	Continuous Collector Current		2A
I_B	Base Current		1.0A
P_D	Total Power Dissipation at	$T_A = 25^\circ C$	1.0W
		Derate Above $25^\circ C$	5.71mW/ $^\circ C$
P_D	Total Power Dissipation at	$T_C = 25^\circ C$	7W
		Derate Above $25^\circ C$	40mW/ $^\circ C$
T_J	Junction Temperature Range		-65 to +200 $^\circ C$
T_{stg}	Storage Temperature Range		-65 to +200 $^\circ C$

THERMAL PROPERTIES

Symbols	Parameters	Min.	Typ.	Max.	Units
$R_{\theta JA}$	Thermal Resistance, Junction To Ambient			175	$^\circ C/W$
$R_{\theta JC}$	Thermal Resistance, Junction To Case			25	$^\circ C/W$

Semelab Limited reserves the right to change test conditions, parameter limits and package dimensions without notice. Information furnished by Semelab is believed to be both accurate and reliable at the time of going to press. However Semelab assumes no responsibility for any errors or omissions discovered in its use. Semelab encourages customers to verify that datasheets are current before placing orders.



SILICON PLANAR EPITAXIAL NPN TRANSISTOR 2N5320

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

Symbols	Parameters	Test Conditions	Min.	Typ	Max.	Units
$V_{(BR)CEO}^{(1)}$	Collector-Emitter Breakdown Voltage	$I_C = 10\text{mA}$ $I_B = 0$	75			V
I_{CEX}	Collector Cut-Off Current	$V_{CE} = 100\text{V}$ $V_{BE} = -1.5\text{V}$			100	μA
		$V_{CE} = 70\text{V}$ $V_{BE} = -1.5\text{V}$ $T_A = 150^\circ\text{C}$			5	mA
I_{EBO}	Emitter Cut-Off Current	$V_{EB} = 7\text{V}$ $I_C = 0$			100	μA
$h_{FE}^{(1)}$	Forward-current transfer ratio	$I_C = 500\text{mA}$ $V_{CE} = 4\text{V}$	30		130	
		$I_C = 1.0\text{A}$ $V_{CE} = 2\text{V}$	10			
$V_{CE(sat)}^{(1)}$	Collector-Emitter Saturation Voltage	$I_C = 500\text{mA}$ $I_B = 50\text{mA}$			0.5	V
$V_{BE(on)}^{(1)}$	Base-Emitter Voltage	$I_C = 500\text{mA}$ $V_{CE} = 4\text{V}$			1.1	

DYNAMIC CHARACTERISTICS

$ h_{fe} $	Small signal forward-current transfer ratio	$I_C = 50\text{mA}$ $V_{CE} = 4\text{V}$ $f = 10\text{MHz}$	5			
t_{on}	Turn-On Time	$I_C = 500\text{mA}$ $V_{CC} = 30\text{V}$ $I_{B1} = 50\text{mA}$			80	ns
t_{off}	Turn-Off Time	$I_C = 500\text{mA}$ $V_{CC} = 30\text{V}$ $I_{B1} = -I_{B2} = 50\text{mA}$			800	

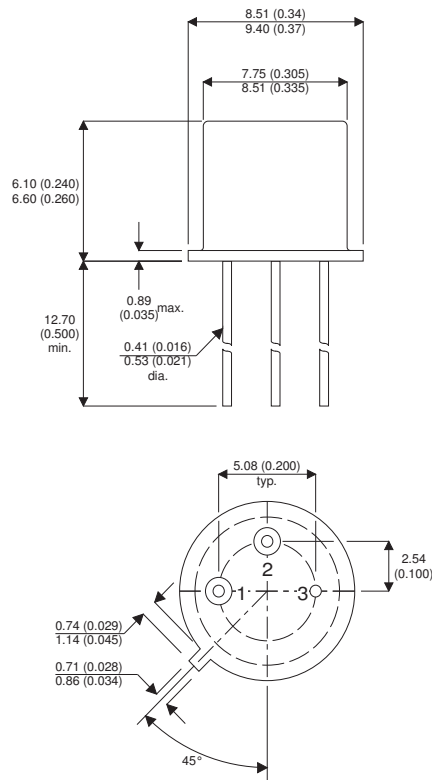
Notes

(1) Pulse Width $\leq 300\mu\text{s}$, $\delta \leq 2\%$

SILICON PLANAR EPITAXIAL NPN TRANSISTOR 2N5320

MECHANICAL DATA

Dimensions in mm (inches)



TO-39 (TO-205AD) METAL PACKAGE Underside View

Pin 1 - Emitter

Pin 2 - Base

Pin 3 - Collector