2N5338X
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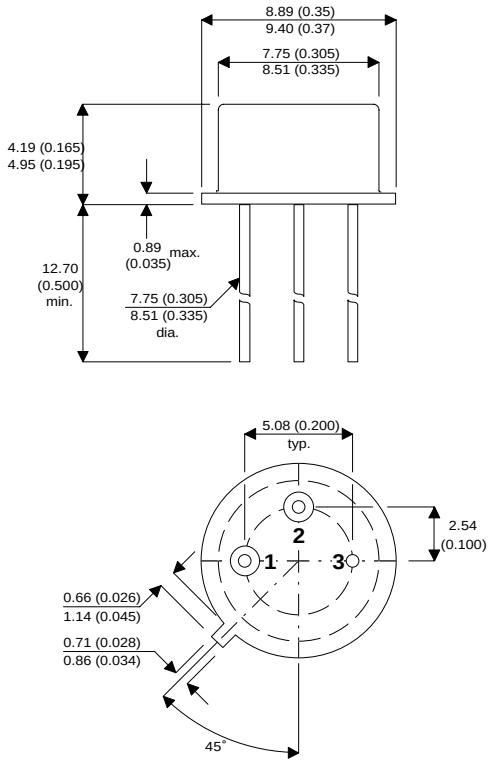
MECHANICAL DATA
Dimensions in mm (inches)



TO-39

Pin 1 – Emitter Pin 2 – Base Pin 3 – Collector

NPN SILICON TRANSISTORS

DESCRIPTION

The 2N5339X silicon expitaxial planar NPN transistor in jedec TO-39 metal case intended for use as drivers for high power transistors in general purpose, amplifier and switching circuit

ABSOLUTE MAXIMUM RATINGS T_{CASE} = 25°c unless otherwise stated

V_{CBO}	Collector – Base Voltage(I_E = 0)	100V
V_{CEO}	Collector – Emitter Voltage (I_B = 0)	100V
V_{EBO}	Emitter – Base Voltage (I_C = 0)	6V
I_C	Collector Current	5A
I_{CM}	Collector Peak Current	7A
I_B	Base Current	1A
P_{tot}	Total Dissipation at $T_{case} \leq 25°C$	6W
	$T_{amb} \leq 25°C$	1W
T_{stg}	Storage Temperature Range	–65 to +200°C
T_j	Junction temperature	200°C

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THERMAL DATA

$R_{thj\text{-}case}$	Thermal Resistance Junction-case	Max	29.2	°C/W
$R_{thj\text{-}amb}$	Thermal Resistance Junction-ambient	Max	175	°C/W

ELECTRICAL CHARACTERISTICS (T_{case} = 25°C unless otherwise stated)

	Parameter	Test Conditions		Min.	Typ.	Max.	Unit
I_{CBO}	Collector Cut Off Current	I_E = 0	V_{CB} = 100V			10	µA
I_{CEX}	Collector Cut Off Current	V_{BE} = 1.5V	V_{CE} = 90V			10	µA
			T_{case} = 150°C			1	mA
I_{CEO}	Collector Cut Off Current	I_B = 0	V_{CE} = 90V			100	µA
$V_{CEO(sus)*}$	Collector Emitter Sustaining Voltage	I_B = 0	I_C = 50mA			100	V
$V_{CE(sat)*}$	Collector Emitter Saturation Voltage	I_C = 2A	I_B = 0.2A			0.7	V
		I_C = 5A	I_B = 0.5A			1.2	
$V_{BE(sat)*}$	Base Emitter Voltage	I_C = 2A	I_B = 0.2A			1.2	V
		I_C = 5A	I_B = 0.5A			1.8	
h_{FE*}	DC Current Gain	I_C = 0.5A	V_{CE} = 2V	60			—
		I_C = 2A	V_{CE} = 2V	60		240	
		I_C = 5A	V_{CE} = 2V	40			
f_T	Transistion Frequency	I_C =0.5mA	V_{CE} = 10V	30			MHz
C_{CBO}	Collector Base Capacitance	I_E = 0 f = 0.1MHz	V_{CB} = 10V			250	pF
t_{on}	Turn-on Time	I_C = 2A I_{B1} = 0.2mA	V_{CC} = 40V			200	ns
t_s	Storage Time	I_C = 2A	V_{CC} = 40V			2.5	µs
t_f	Fall Time	I_{B1} = - I_{B2} = 0.2A				200	ns

* Pulse test t_p = 300µs , Duty Cycle 1.5%