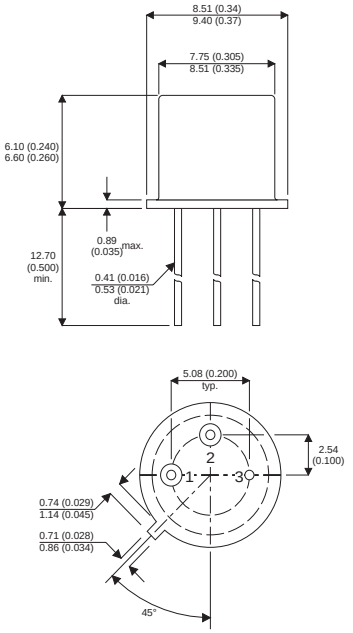
2N5154XX

MECHANICAL DATA

Dimensions in mm (inches)



TO-39 (TO-205AD)

Underside View

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

HIGH SPEED MEDIUM VOLTAGE SWITCH

DESCRIPTION

The 2N5154XX is a silicon expitaxial planar NPN transistor in a TO-39 metal case for use in Switching and Linear applications.

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)	80V
V_{EBO}	Emitter – Base Voltage (I_C = 0)	6V
I_C	Continuous Collector Current	5A
$I_{C(PK)}$	Peak Collector Current	10A
I_B	Base Current	1A
P_{tot}	Total Dissipation at $T_{amb} \leq 25°C$	1W
	$T_{case} \leq 50°C$	10W
	$T_{case} \leq 100°C$	6.7W
T_{stg}	Operating and Storage Temperature Range	–65 to +200°C
T_j	Junction temperature	200°C

Semelab Plc 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.

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

	Parameter	Test Conditions		Min.	Typ.	Max.	Unit
I_{CES}	Collector Cut Off Current	V_{CE} = 60V	V_{BE} = 0			1	µA
		V_{CE} = 100V	V_{BE} = 0			1	mA
I_{CEV}	Collector Cut Off Current	V_{CE} = 60V V_{BE} = -2V	T_{case} = 150°C			500	µA
I_{CEO}	Collector Cut Off Current	V_{CE} = 40V	I_B = 0			50	
I_{EBO}	Emitter Cut Off Current	V_{EB} = 4V	I_C = 0			1	µA
		V_{EB} = 5.5V	I_C = 0			1	mA
$V_{CEO(SUS)*}$	Collector Emitter Saturation Voltage	I_C = 100mA	I_B = 0	80			V
$V_{CE(sat)*}$	Collector Emitter Saturation Voltage	I_C = 2.5A	I_B = 250mA			0.75	
		I_C = 5A	I_B = 500mA			1.5	
$V_{BE(sat)*}$	Base Emitter Saturation Voltage	I_C = 2.5A	I_B = 250mA			1.45	
		I_C = 5A	I_B = 500mA			2.2	
V_{BE*}	Base Emitter Voltage	I_C = 2.5A	V_{CE} = 5V			1.45	
h_{FE*}	DC Current Gain	I_C = 50mA	V_{CE} = 5V	50			—
		I_C = 2.5A	V_{CE} = 5V	60		200	
			T_C = -55°C	25			
		I_C = 5A	V_{CE} = 5V	30			
C_{CBO}	Collector Base Capacitance	I_E = 0 f = 1MHz	V_{CB} = 10V			250	pF
h_{FE}	Small Signal Current Gain	I_C = 0.1A f = 1KHz	V_{CE} = 5V	50			—
		I_C = 0.5A f = 20MHz	V_{CE} = 5v	3.5			
t_{on}	Turn On Time	I_C = 5A I_{B1} = 0.5A	V_{CC} = 30v		0.5		µs
t_{off}	Turn Off Time	I_C = 5A I_{B1}=-I_{B2} = 0.5A	V_{CC} = 30V		1.3		

* Pulse test t_p = 300µs , δ < 2%

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