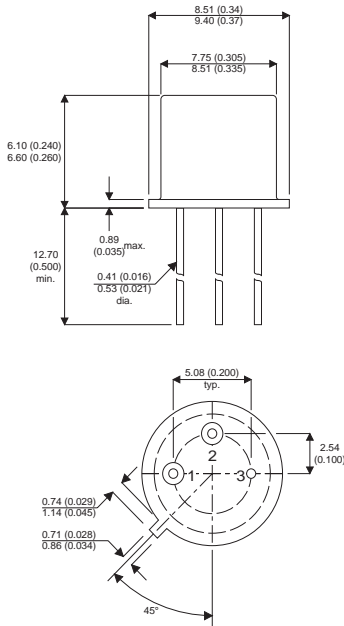


MECHANICAL DATA

Dimensions in mm (inches)



TO-39 (TO - 205AD)

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

NPN SILICON HIGH FREQUENCY TRANSISTOR

APPLICATIONS

The 2N3553 is designed for amplifier and oscillator applications in military and industrial equipment. Suitable for use as output, driver or pre-driver stages in VHF equipment.

FEATURES

- Fast Switching
- Low Leakage Current

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

V_{CEO}	Collector – Emitter Voltage	40V
V_{CBO}	Collector – Base Voltage	65V
V_{EBO}	Emitter – Base Voltage	4.0V
I_C	Continuous Collector Current	1A
P_D	Total Device Disipation @ $T_{Case} = 25^\circ\text{C}$	7W
	Derate above 25°C	40mW/ $^\circ\text{C}$
T_j, T_{stg}	Operating and Storage Junction Temperature Range	-65 to +200 $^\circ\text{C}$

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.

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

Parameter	Test Conditions	Min.	Typ.	Max.	Unit
$V_{\text{CEO(sus)}}$ Collector Emitter Sustaining Voltage	$I_C = 200\text{mA}$ $I_B = 0$	40			V
$V_{\text{(BR)EBO}}$ Emitter Base Breakdown Voltage	$I_E = 0.1\text{mA}$ $I_C = 0$	4.0			V
I_{CEO} Collector Cut Off Current	$V_{\text{CE}} = 30\text{V}$ $I_B = 0$			0.1	mA
I_{CEX} Collector Cut Off Current $V_{\text{BE(off)}} = 1.5\text{V}$	$V_{\text{CE}} = 30\text{V}$ $T_C = 200^\circ\text{C}$			5.0	
	$V_{\text{CE}} = 65\text{V}$			1.0	
I_{EBO} Emitter Cut Off Current	$V_{\text{BE}} = 4\text{V}$ $I_C = 0$			0.1	
h_{FE} DC Current Gain	$I_C = 250\text{mA}$ $V_{\text{CE}} = 1.0\text{V}$	10			—
$V_{\text{CE(sat)}}$ Collector Emitter Saturation Voltage	$I_C = 250\text{mA}$ $I_B = 50\text{mA}$			1.0	V
f_T Current Gain - Bandwidth Product	$I_C = 100\text{mA}$ $V_{\text{CE}} = 28\text{V}$ $f = 100\text{MHz}$		500		MHz
C_{obo} Output Capacitance	$I_E = 0$ $V_{\text{CB}} = 30\text{V}$ $f = 100\text{kHz}$		8.0	10	pF
P_{in} Power Input	$P_{\text{out}} = 2.5\text{W}$ $V_{\text{CE}} = 28\text{V}$ $f = 175\text{MHz}$			0.25	W
G_{pe} Common Emitter Amplifier Power Gain	$P_{\text{out}} = 2.5\text{W}$ $V_{\text{CE}} = 28\text{V}$ $f = 175\text{MHz}$	10			dB
η Collector Efficiency	$P_{\text{out}} = 2.5\text{W}$ $V_{\text{CE}} = 28\text{V}$ $f = 175\text{MHz}$	50			%

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