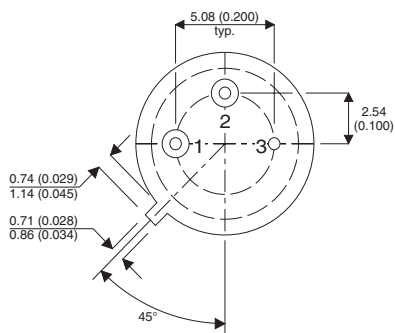
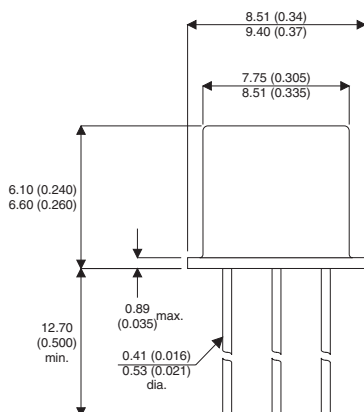


MECHANICAL DATA

Dimensions in mm (inches)


TO39 PACKAGE (TO-205AD)
Underside View

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

**MEDIUM POWER SILICON
NPN PLANAR TRANSISTOR**

General purpose NPN Transistor
in a hermetic TO39 package.

$$V_{CEO} = 100V$$

$$I_C = 1A$$

$$P_{TOT} = 5W$$

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

V_{CBO}	Collector – Base Voltage	120V
V_{CEO}	Collector – Emitter Voltage	100V
V_{EBO}	Emitter – Base Voltage	6V
V_{CER}	Collector – Emitter Sustaining Voltage	100V
I_C	Collector Current	1A
P_{TOT}	Dissipation @ $T_{amb} = 25^{\circ}C$	1W
	@ Case Temp. = $100^{\circ}C$	2.9W
	@ Case Temp. = $25^{\circ}C$	5W
	Derating linearly	175°C/W
T_{stg}, T_j	Storage and Operating Junction Temperature	-65 to 175°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 ($T_{\text{case}} = 25^{\circ}\text{C}$ unless otherwise stated)

Parameter	Test Conditions	Min.	Typ.	Max.	Unit
$V_{\text{CEO(SUS)}}$ Collector – Emitter Sustaining Voltage	$I_{\text{C}} = 10\text{mA}$ $I_{\text{B}} = 0$	100			V
$V_{\text{CE(sat)}}$ Collector – Emitter Saturation Voltage	$I_{\text{C}} = 200\text{mA}$ $I_{\text{B}} = 20\text{mA}$			1.2	
$V_{\text{BE(sat)}}$ Base – Emitter Saturation Voltage	$I_{\text{C}} = 200\text{mA}$ $I_{\text{B}} = 20\text{mA}$			1.5	
I_{CBO} Collector Cut-off Current	$V_{\text{CB}} = V_{\text{CE}}$ $I_{\text{E}} = 0$			1	mA
	$T_{\text{amb}} = 100^{\circ}\text{C}$			60	
I_{EBO} Emitter - Base Reverse Current	$V_{\text{EB}} = 5\text{V}$ $I_{\text{C}} = 0$			0.1	μA
h_{FE} DC Current Gain	$V_{\text{CE}} = 10\text{V}$ $I_{\text{C}} = 10\text{mA}$	30			—
	$V_{\text{CE}} = 10\text{V}$ $I_{\text{C}} = 200\text{mA}$	40		120	
f_{T} Gain Bandwidth Product	$V_{\text{CE}} = 10\text{V}$ $I_{\text{C}} = 50\text{mA}$ $f = 10\text{MHz}$	60	250		MHz
NF Noise Figure	$V_{\text{CE}} = 10\text{V}$ $I_{\text{C}} = 300\mu\text{A}$ $f = 1\text{KHz}$		6		dB
C_{ob} Output Capacitance	$V_{\text{CB}} = 10\text{V}$ $f = 0$			25	pF
C_{ib} Input Capacitance	$V_{\text{EB}} = 1\text{V}$ $f = 0$			100	

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