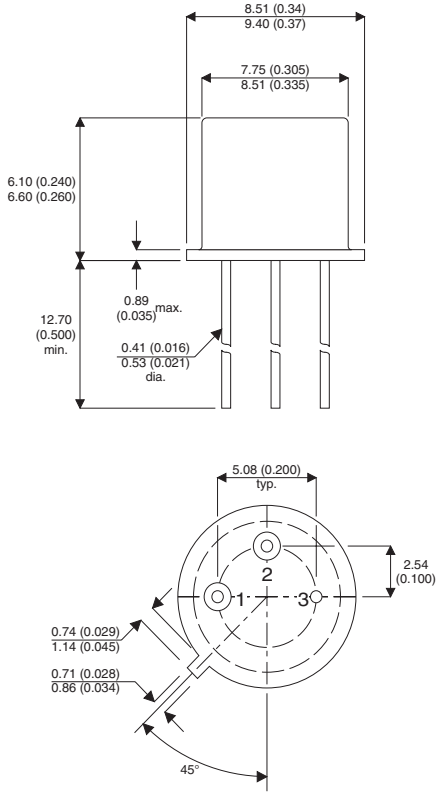
SEME LAB

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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°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°C	1W
	@ Case Temp. = 100°C	2.9W
	@ Case Temp. = 25°C	5W
	Derating linearly	175°C/W
T_{stg}, T_j	Storage and Operatuing 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.

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

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

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