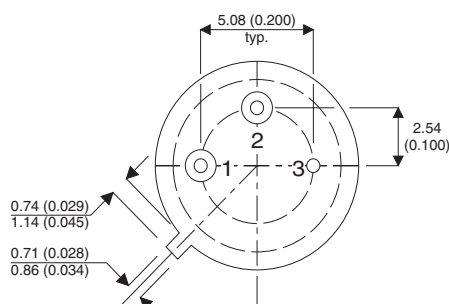
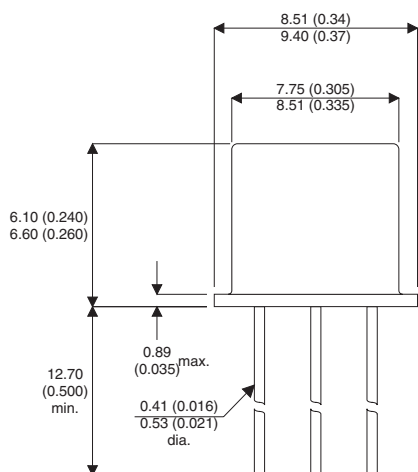


MECHANICAL DATA

Dimensions in mm (inches)



Underside View
TO-39 PACKAGE (TO-205AD)

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

ABSOLUTE MAXIMUM RATINGS (T_{case} = 25°C unless otherwise stated)

V _{CBO}	Collector – Base Voltage (I _E = 0)	250V
V _{CEO}	Collector – Emitter Voltage (I _B = 0)	200V
V _{EBO}	Emitter – Base Voltage (I _C = 0)	6V
I _C	Collector Current	3A
I _{CM}	Peak Collector Current	5A
P _{tot}	Total Power Dissipation @T _{amb} ≤ 25°C	1W
	@T _{case} ≤ 50°C	1W
T _{STG}	Storage Temperature Range	–65 to +200°C
T _J	Maximum Operating Junction Temperature	200°C
R _{thj-case}	Thermal resistance Junction-case	15°C/W
R _{thj-amb}	Thermal Resistance Junction-case-ambient	175°C/W

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.

SILICON NPN TRANSISTOR

APPLICATIONS

- Switching Speed
- Low Collector Emitter Saturation
- General Purpose Switching

ELECTRICAL CHARACTERISTICS

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

Parameter		Test Conditions		Min.	Typ.	Max.	Unit
I _{CBO}	Collector Cut-off Current	V _{CB} = 200V				0.1	μA
		I _E = 0	T _C = 150°C			50	
V _{(BR)CBO}	Collector – Base Breakdown Voltage	I _C = 100μA	I _E = 0	250			V
V _{CEO(sus)*}	Collector – Emitter Sustaining Voltage	I _C = 20mA	I _B = 0	200			
V _{EBO*}	Emitter – Base Sustaining Voltage	I _E = 1mA	I _C = 0	6			
V _{CE(sat)*}	Collector – Emitter Saturation Voltage	I _C = 0.5A	I _B = 50mA			0.2	
V _{BE(sat)*}	Base – Emitter Saturation Voltage	I _C = 0.5A	I _B = 50mA			1.1	
h _{FE*}	DC Current Gain	I _C = 20mA	V _{CE} = 5V	40			—
		I _C = 0.5A	V _{CE} = 5V	40	80		
		I _C = 20mA	V _{CE} = 2V T _C = −55°C	16			
f _T	Transition Frequency	I _C = 100mA	V _{CE} = 10V	50			MHz
C _{CBO}	Collector – Base Capacitance	I _E = 0 f = 1MHz	V _{CB} = 10V			30	pF
t _{on}	Turn-On Time	I _C = 0.5A	V _{CC} = 20V		0.3		μs
t _{off}	Turn-Off Time	I _{B1} = −I _{B2} = 50mA			1		
I _{s/b**}	Second Breakdown Collector Current	V _{CE} = 50V		0.2			A

NOTES

* Pulse Test: $t_p = 300\mu s$, $\delta = 1.5\%$

** Pulse Test: 1sec, non-repetitive pulse.