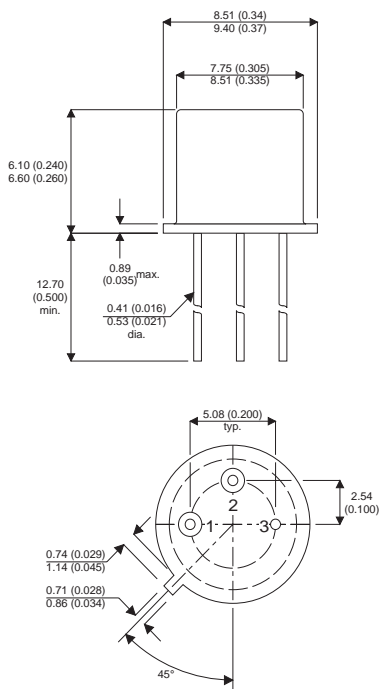


MECHANICAL DATA

Dimensions in mm (inches)



TO-39 (TO205AD)
Underside View

PIN 1 – Emitter PIN 2 – Base PIN 3 – Collector

PNP SILICON TRANSISTOR

FEATURES

- High Current Gain Bandwidth Product
- Hermetic TO39 Package
- Full Screening Options Available

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

V_{CBO}	Collector – Base Voltage	-60V
V_{CEO}	Collector – Emitter Voltage ($I_B = 0$)	-60V
V_{EBO}	Emitter – Base Voltage ($I_B = 0$)	-4V
I_C	Collector Current	-1A
$I_{C(cont)}$	Collector Current Continuous	-3A
P_D	Total Device Dissipation $T_A = 25^{\circ}C$	1W
	Derate above $25^{\circ}C$	5.71mW / $^{\circ}C$
P_D	Total Device Dissipation $T_C = 25^{\circ}C$	6W
	Derate above $25^{\circ}C$	34.3mW / $^{\circ}C$
T_{stg}	Storage Temperature	-65 to $200^{\circ}C$
$R_{\theta JA}$	Thermal Resistance Junction to Ambient	175 $^{\circ}C/W$
$R_{\theta JC}$	Thermal Resistance Junction to Case	29 $^{\circ}C/W$

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.

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

Parameter	Test Conditions	Min	Typ	Max	Unit
$V_{(BR)CEO}$ Collector – Emitter Breakdown Voltage	$I_C = -20mA$ $I_B = 0$	-60			V
I_{CBO} Collector Cut-off Current	$V_{CB} = -60V$ $I_E = 0$			-10	μA
I_{CEX} Collector Cut-off Current	$V_{CE} = -60V$ $V_{BE(off)} = -2V$			-10	μA
	$V_{CE} = -60V$ $V_{BE(off)} = -2V$ $T_{amb} = 150^{\circ}C$			-1.0	mA
I_{EBO} Emitter Cut-off Current	$V_{BE} = -4V$ $I_C = 0$			-1.0	mA
$V_{CE(sat)}$ Collector – Emitter Saturation Voltage	$I_C = -1A,$ $I_B = -100mA$			-0.75	V
	$I_C = -3A,$ $I_B = -300mA$			-1.5	
$V_{BE(sat)}$ Base – Emitter Saturation Voltage	$I_C = -1A,$ $I_B = -100mA$			-1.5	V
	$I_C = -3A,$ $I_B = -300mA$			-2.3	
hFE DC Current Gain	$I_C = -500mA,$ $V_{CE} = -1.5V$	20			—
	$I_C = -1A,$ $V_{CE} = -1.5V$	25		180	
	$I_C = -1A,$ $V_{CE} = -1.5V,$ $T_C = -40^{\circ}C$	15			

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

Parameter	Test Conditions	Min.	Typ.	Max.	Unit
f_T Transition Frequency	$I_C = -500mA$ $V_{CE} = -10V$ $f = 30MHz$	60			MHz
C_{obo} Output Capacitance	$V_{CB} = -10V$ $I_E = 0$ $f = 0.1MHz$			120	pF
C_{ibo} Input Capacitance	$V_{EB} = 0.5V$ $I_C = 0$ $f = 0.1MHz$			1000	pF
t_{on} Turn on Time	$V_{CC} = -12V, V_{BE(off)} = 0V, I_C = 1A, I_{B1} = 0.1A$			100	ns
t_{off} Turn off Time	$V_{CC} = -12V, I_C = 1A, I_{B1} = I_{B2} = 100mA$			400	ns

(1) Pulse test : Pulse Width < 300 μs ,Duty Cycle < 2%