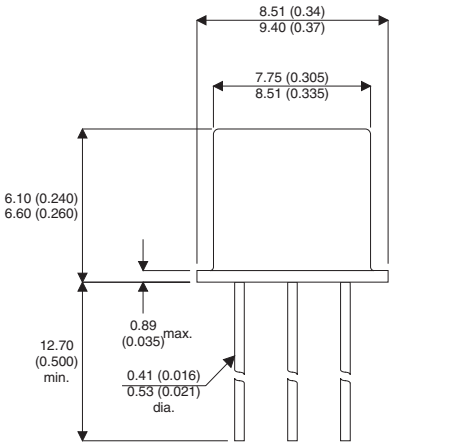
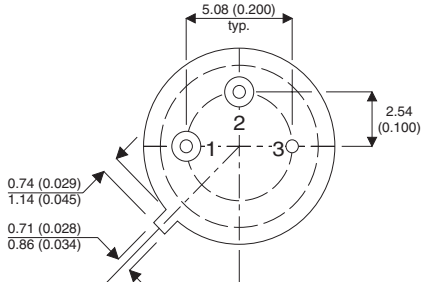
BUY49S

MECHANICAL DATA

Dimensions in mm (inches)





Underside View

TO–39 PACKAGE (TO-205AD)

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

SILICON NPN TRANSISTOR

APPLICATIONS

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

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	@$T_{amb} \leq$ 25°C	1W
		@$T_{case} \leq$ 50°C	1W
T_{STG}	Storage Temperature Range		–65 to +200°C
T_J	Maximum Operating Junction Temperature		200°C
Rthj-case	Thermal resistance Junction-case		15°C/W
Rthj-amb	Thermal Resistance Junction-case-ambient		175°C/W

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SEME LAB

BUY49S

ELECTRICAL CHARACTERISTICS (T_{case} = 25°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 = 300µs, δ = 1.5%

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

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