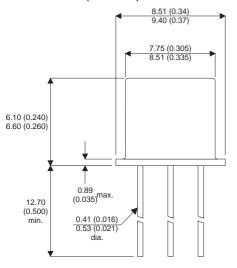




MECHANICAL DATA

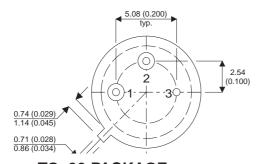
Dimensions in mm (inches)



SILICON EPITAXIAL NPN TRANSISTOR

FEATURES

General purpose power transistor for switching and linear applications in a hermetic TO-39 package.



TO-39 PACKAGE

PIN 1 - Emitter

PIN 2 - Base

PIN 3 - Collector

ABSOLUTE MAXIMUM RATINGS (T_A = 25°C unless otherwise stated)

V_{CBO}	Collector – Base Voltage		80V		
V _{CER(sus)}	Collector – Emitter Sustainii	80V			
V _{CEO(sus)}	Collector – Emitter Sustainii	65V			
V _{EBO}	Emitter – Base Voltage	5V			
I _C	Continuous Collector Currer	3.5A			
I_{B}	Continuous Collector Currer	1A			
P_{D}	Total Device Dissipation	$T_A = 25^{\circ}C$	10W		
		Derate above 25°C	0.057W/°C		
P_{D}	Total Device Dissipation	$T_C = 25^{\circ}C$	1W		
		Derate above 25°C	0.0057W/°C		
T_J , T_STG	Operating Junction and Stor	−65 to +200°C			
TL	Lead temperature, $\geq \frac{1}{32}$ " (0.8mm) from seating plane for 10 s max.		230°C		

Semelab PIc 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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Document Number 3078





ELECTRICAL CHARACTERISTICS (T_C = 25°C unless otherwise stated)

	Parameter Test Conditions		Min.	Тур.	Max.	Unit	
I _{CER}	Collector Cut-off Current	V _{CE} = 65V				10	μΑ
		$R_{BE} = 100\Omega$	$T_C = 150$ °C			1	mA
I _{CEX}	Collector Cut-off Current	V _{CE} = 75V	$V_{BE} = -1.5V$			10	μΑ
		$R_{BE} = 100\Omega$	$T_C = 150$ °C			1	mA
I _{CEO}	Collector Cut-off Current	V _{CE} = 50V	I _B = 0			100	μΑ
I _{EBO}	Emitter Cut-off Current	$V_{BE} = -5V$	I _C = 0			10	μΑ
h _{FE*}	DC Current Gain	V _{CE} = 2V	I _C = 1A	20		100	_
		V _{CE} = 2V	I _C = 3.2A	4			
V _{CEO(sus)*}	Collector – Emitter Sustaining Voltage ¹	I _C = 100mA	I _B = 0	65	65		V
V _{CER(sus)*}	Collector – Emitter Sustaining Voltage ¹	I _C = 100mA	$R_{BE} = 100\Omega$	80			V
V_{BE}	Base – Emitter Voltage	$V_{CE} = 2V$	I _C = 1A			1.5	V
V _{CE(sat)}	Collector – Emitter Saturation Voltage ²	I _C = 1A	I _B = 100mA			0.5	'
h _{fe}	Small Signal Common – Emitter	V _{CE} = -2V	$I_C = 100 \text{mA}$	5		20	_
	Current Gain	f = 200kHz		5		20	
h _{fe}	Small Signal Common – Emitter	V _{CE} = 2V	I _C = 100mA	25			
	Current Gain	f = 1kHz		25			
t _{ON}	Turn-on Time	V _{CE} = 30V	I _C = 1A			5	116
t _{OFF}	Turn-off Time	$I_{B1} = I_{B2} = 100 \text{mA}$				15	μs
$R_{\theta JC}$	Thermal Resistance Junction – Case			17	17.5	°C/W	
$R_{\theta JA}$	Thermal Resistance Junction – Ambient				17.5	0,44	

NOTES

- Pulse Test: $t_p = 300\mu s$, $\delta = 1.8\%$.
- These tests MUST NOT be measured on a curve tracer.
- Measured 1/4" (6.35 mm) from case. Lead resistance is critical in this test. 2)
- Measured at a frequency where $|h_{\mbox{\scriptsize fe}}|$ is decreasing at approximately 6dB per octave.

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