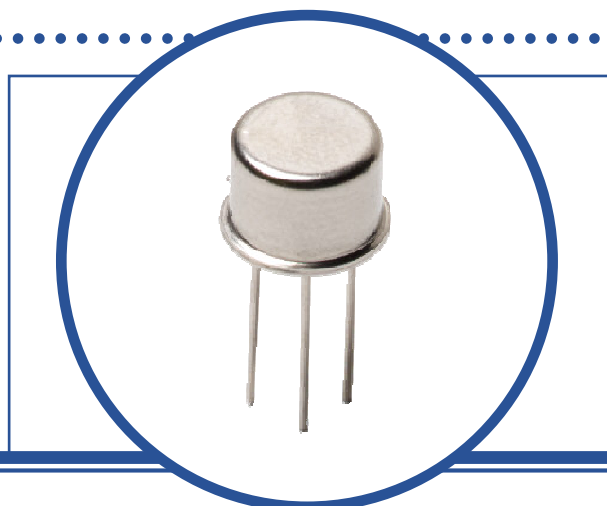


SILICON PNP TRANSISTOR

2N3637

- General Purpose PNP Silicon Transistor
- High Voltage, High Speed Saturated Switching
- Low Power Amplifier Applications
- Hermetic TO39 Package
- Screening Options Available



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

V_{CBO}	Collector – Base Voltage	-175V
V_{CEO}	Collector – Emitter Voltage	-175V
V_{EBO}	Emitter – Base Voltage	-5.0V
I_C	Continuous Collector Current	-1.0A
P_D	Total Power Dissipation at $T_A = 25^\circ\text{C}$	1.0W
	Derate Above 25°C	5.71mW/ $^\circ\text{C}$
	$T_C = 25^\circ\text{C}$	5.0W
	Derate Above 25°C	28.6mW/ $^\circ\text{C}$
T_J	Junction Temperature Range	-65 to $+200^\circ\text{C}$
T_{stg}	Storage Temperature Range	-65 to $+200^\circ\text{C}$

THERMAL PROPERTIES

Symbols	Parameters	Min.	Typ.	Max.	Unit
$R_{\theta JA}$	Thermal Resistance, Junction To Ambient			175	$^\circ\text{C/W}$
$R_{\theta JC}$	Thermal Resistance, Junction To Case			35	$^\circ\text{C/W}$

Semelab Limited 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 ($T_C = 25^\circ\text{C}$ unless otherwise stated)

Symbols	Parameters	Test Conditions	Min.	Typ.	Max.	Unit
$V_{(BR)CEO}^{(1)}$	Collector-Emitter Breakdown Voltage	$I_C = -10\text{mA}$ $I_B = 0$	-175			V
I_{EBO}	Emitter Cut-Off Current	$V_{BE} = -5.0\text{V}$ $I_C = 0$			-10	μA
		$V_{BE} = -3.0\text{V}$ $I_C = 0$			-50	nA
I_{CBO}	Collector Cut-Off Current	$V_{CB} = -100\text{V}$ $I_E = 0$			-100	nA
		$T_A = 150^\circ\text{C}$			-10	μA
		$V_{CB} = -175\text{V}$ $I_E = 0$			-10	μA
$h_{FE}^{(1)}$	DC Current Gain	$I_C = -0.10\text{mA}$ $V_{CE} = -10\text{V}$	55			
		$I_C = -1.0\text{mA}$ $V_{CE} = -10\text{V}$	90			
		$I_C = -10\text{mA}$ $V_{CE} = -10\text{V}$	100			
		$I_C = -50\text{mA}$ $V_{CE} = -10\text{V}$	100		300	
		$T_A = -55^\circ\text{C}$	50			
		$I_C = -150\text{mA}$ $V_{CE} = -10\text{V}$	60			
$V_{CE(sat)}^{(1)}$	Collector-Emitter Saturation Voltage	$I_C = -10\text{mA}$ $I_B = -1.0\text{mA}$			-0.3	V
		$I_C = -50\text{mA}$ $I_B = -5.0\text{mA}$			-0.6	
$V_{BE(sat)}^{(1)}$	Base-Emitter Saturation Voltage	$I_C = -10\text{mA}$ $I_B = -1.0\text{mA}$			-0.8	
		$I_C = -50\text{mA}$ $I_B = -5.0\text{mA}$	-0.65		-0.9	

DYNAMIC CHARACTERISTICS

f_T	Transition Frequency	$I_C = -30\text{mA}$ $V_{CE} = -30\text{V}$ $f = 100\text{MHz}$	100			MHz
h_{fe}	Small-Signal Current Gain	$I_C = 10\text{mA}$ $V_{CE} = 10\text{V}$ $f = 1.0\text{KHz}$	80		320	
C_{obo}	Output Capacitance	$V_{CB} = -20\text{V}$ $I_E = 0$ $f = 1.0\text{MHz}$			10	pF
C_{ibo}	Input Capacitance	$V_{EB} = -1.0\text{V}$ $I_C = 0$ $f = 1.0\text{MHz}$			75	pF
t_{on}	Turn-On Time	$V_{CC} = -100\text{V}$ $V_{BE} = 4.0\text{V}$			400	ns
t_{off}	Turn-Off Time	$I_C = -50\text{mA}$ $I_{B1} = -I_{B2} = -5\text{mA}$			600	

Notes

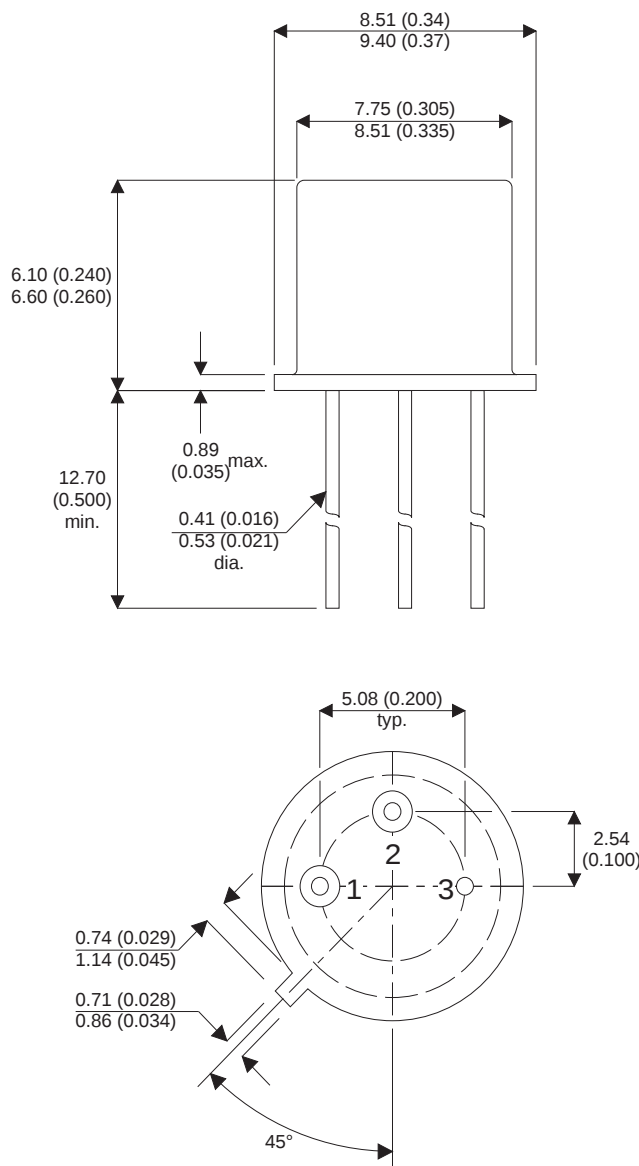
(1) Pulse Width $\leq 300\mu\text{s}$, $\delta \leq 2\%$

SILICON PNP TRANSISTOR

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MECHANICAL DATA

Dimensions in mm (inches)



TO39 (TO-205AD) METAL PACKAGE

Underside View

PIN 1 - Emitter

PIN 2 - Base

PIN 3 - Collector