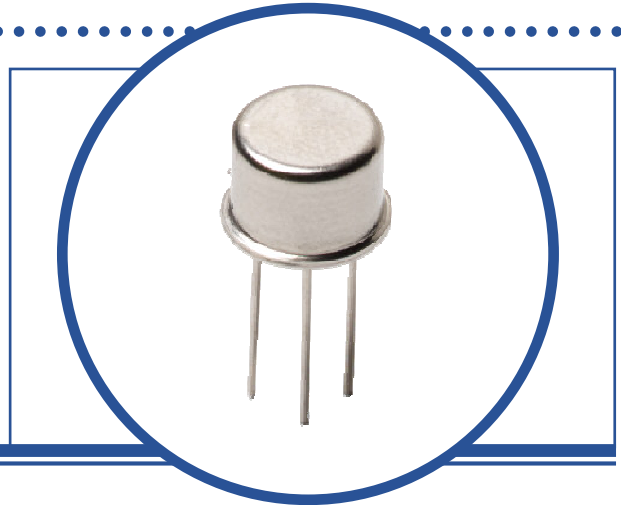


# SILICON PNP TRANSISTOR

## 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 $25^\circ\text{C}$	5.71mW/ $^\circ\text{C}$
	$T_C = 25^\circ\text{C}$	5.0W
	Derate Above $25^\circ\text{C}$	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.



# SILICON PNP TRANSISTOR

## 2N3637

### 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	$\mu\text{A}$
		$V_{BE} = -3.0\text{V}$ $I_C = 0$			-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	$\mu\text{A}$
$h_{FE}^{(1)}$	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			
$V_{CE(sat)}^{(1)}$	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	

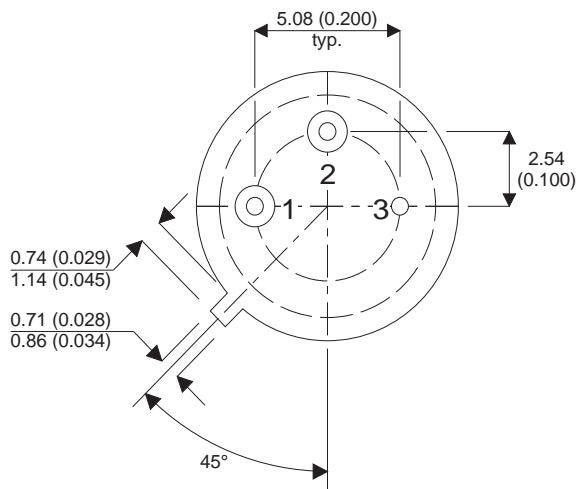
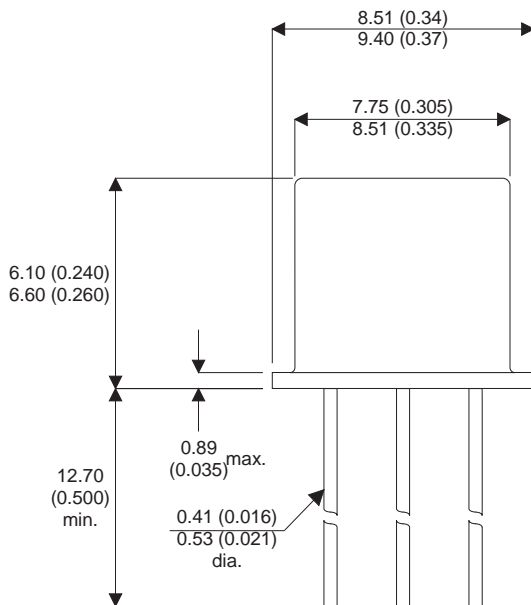
#### Notes

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

# SILICON PNP TRANSISTOR 2N3637

## MECHANICAL DATA

Dimensions in mm (inches)



### TO39 (TO-205AD) METAL PACKAGE

Underside View

PIN 1 - Emitter

PIN 2 - Base

PIN 3 - Collector