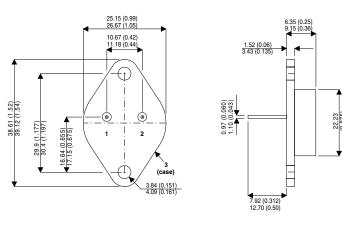


2N6436 2N6437 2N6438

### **MECHANICAL DATA**

Dimensions in mm (inches)

# **HIGH POWER PNP SILICON TRANSISTORS**



### **DESCRIPTION**

**Designed for use in Industrial - Military Power Amplifier and Switching Circuit Applications** 

## TO-3 Package (TO-204AA)

Pin 1 - Base Pin 2 - Emitter Case - Collector

ABSOLUTE MAXIMUM RATINGS(T <sub>CASE</sub> = 25°c unless otherwise stated)		2N6436	2N6437	2N6438	
$\overline{V_{CB}}$	Collector – Base Voltage	100	120	140	
$V_{CEO}$	Collector – Emitter Voltage	80   100   120			
$V_{EB}$	Emitter – Base Voltage	6.0V			
$I_{\mathbb{C}}$	Collector Current Continuous	25A			
Peak		50A			
I <sub>B</sub>	Base Current	10A			
$P_{D}$	Total Device Dissipation at T <sub>case</sub> = 25°C	140W			
	Derate above 25°C		0.8W/°C		
$T_{stg,}T_{j}$	Operating and Storage Temperature Range	−65 to +200°C		°C	

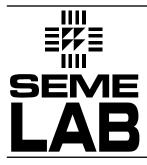
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#### THERMAL DATA

R <sub>thj-case</sub>	Thermal Resistance Junction-case	Max	1.25	°C/W
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# **ELECTRICAL CHARACTERISTICS FOR** $(T_{case} = 25^{\circ}C)$ unless otherwise stated)

	Parameter	Test Conditions	Min.	Тур.	Max.	Unit
I <sub>CBO</sub>	Collector Cut Off Current	V <sub>CB</sub> = 100V I <sub>E</sub> = 0 <b>2N6436</b>			10	μА
		V <sub>CB</sub> = 120V I <sub>E</sub> = 0 <b>2N6437</b>			10	
		V <sub>CB</sub> = 140V I <sub>E</sub> = 0 <b>2N6438</b>			10	
I <sub>EBO</sub>	Emitter Cut Off Current	$V_{EB} = 6V$ $I_C = 0$			100	μA
	Collector Cut Off Current	V <sub>CE</sub> = 90V <b>2N6436</b>			10	μA
I <sub>CEX</sub>		$V_{BE (off)} = -1.5V T_{C} = 150^{\circ}C$			1.0	mA
		V <sub>CE</sub> = 110V <b>2N6437</b>			10	μA
		$V_{BE \text{ (off)}} = -1.5 V T_{C} = 150 ^{\circ} C$			1.0	mA
		V <sub>CE</sub> = 130V <b>2N6436</b>			10	μA
		$V_{BE \text{ (off)}} = -1.5 V T_{C} = 150^{\circ} C$			1.0	mA
I <sub>CEO</sub>		$V_{CE} = 40V I_B = 0$ 2N6436			50	μΑ
	Collector Cut off Current	$V_{CE} = 50V I_B = 0$ <b>2N6437</b>			50	
		$V_{CE} = 60V I_B = 0.$ <b>2N6438</b>			50	
	Collector Emitter Breakdown Voltage	2N6436	80			V
V <sub>(BR)CEO</sub> *		$I_C = 50 \text{mA}$ $I_B = 0$ <b>2N6437</b>	100			
		2N6438	120			
h <sub>FE*</sub>	DC Current Gain	V <sub>CE</sub> =2.0V I <sub>C</sub> = 0.5A	30			_
		V <sub>CE</sub> = 2.0V I <sub>C</sub> = 10A	20		120	
		V <sub>CE</sub> = 2.0V I <sub>C</sub> = 25A	12			
V <sub>CE(sat)</sub> *	Collector - Emitter Saturation Voltage	I <sub>C</sub> = 10A I <sub>B</sub> = 1.0A			1.0	V
		$I_C = 25A$ $I_B = 2.5A$			1.8	
V <sub>BE(sat)</sub> *	Base Emitter Saturation Voltage	$I_C = 10A$ $I_B = 1.0AV$			1.8	
		$I_C = 25A$ $I_B = 2.5A$			2.5	
f <sub>T</sub>	Current Gain - Bandwidth Product	I <sub>C</sub> = 1.0A V <sub>CE</sub> = 10V	40			MHz
		$f_{test} = 10MHz$	40			
C <sub>ob</sub>	Output Capacitance	I <sub>E</sub> = 0A V <sub>CE</sub> = 10V		700		
		f = 100kHz			700	pF
t <sub>r</sub>	Rise Time	$V_{CC} = 80V$ $I_C = 10A$			0.2	
		$V_{BE(off)} = 6.0V I_{B1} = 1.0A$			0.3	
t <sub>s</sub>	Storage	$V_{CC} = 80V$ $I_C = 10A$			1.0	μs
t <sub>f</sub>	Fall Time	$V_{BE(off)} = 6.0V I_{B1} = I_{B2} = 1.0A$			0.25	1

<sup>\*</sup> Pulse test: Pulse Width  $\leq 300 \mu s$ , Duty Cycle  $\leq 2.0\%$ 

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