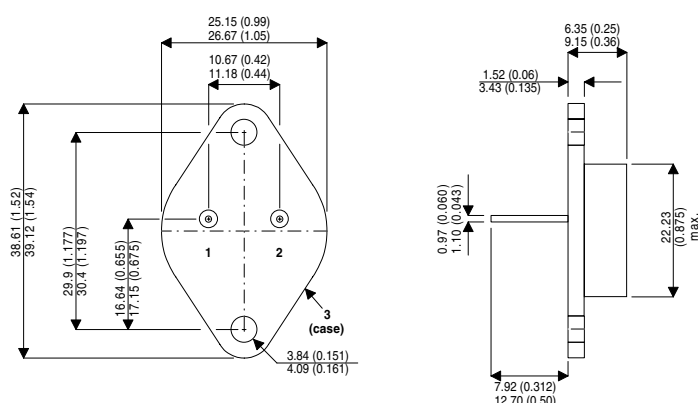


MECHANICAL DATA
Dimensions in mm (inches)



**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 ($T_{CASE} = 25^{\circ}C$ unless otherwise stated)		2N6436	2N6437	2N6438
V_{CB}	Collector – Base Voltage	100	120	140
V_{CEO}	Collector – Emitter Voltage	80	100	120
V_{EB}	Emitter – Base Voltage		6.0V	
I_C	Collector Current Continuous		25A	
	Peak		50A	
I_B	Base Current		10A	
P_D	Total Device Dissipation at $T_{case} = 25^{\circ}C$		140W	
	Derate above $25^{\circ}C$		0.8W/ $^{\circ}C$	
T_{stg}, T_j	Operating and Storage Temperature Range		-65 to +200 $^{\circ}C$	

Semelab Plc 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.

THERMAL DATA

$R_{thj-case}$	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.	Typ.	Max.	Unit
I_{CBO} Collector Cut Off Current	$V_{CB} = 100V$ $I_E = 0$ 2N6436			10	μA
	$V_{CB} = 120V$ $I_E = 0$ 2N6437			10	
	$V_{CB} = 140V$ $I_E = 0$ 2N6438			10	
I_{EBO} Emitter Cut Off Current	$V_{EB} = 6V$ $I_C = 0$			100	μA
I_{CEX} Collector Cut Off Current	$V_{CE} = 90V$ 2N6436			10	μA
	$V_{BE(off)} = -1.5V$ $T_C = 150^{\circ}C$			1.0	mA
	$V_{CE} = 110V$ 2N6437			10	μA
	$V_{BE(off)} = -1.5V$ $T_C = 150^{\circ}C$			1.0	mA
I_{CEO} Collector Cut off Current	$V_{CE} = 40V$ $I_B = 0$ 2N6436			50	μA
	$V_{CE} = 50V$ $I_B = 0$ 2N6437			50	
	$V_{CE} = 60V$ $I_B = 0$ 2N6438			50	
$V_{(BR)CEO}^*$ Collector Emitter Breakdown Voltage	2N6436	80			V
	$I_C = 50mA$ $I_B = 0$ 2N6437	100			
	2N6438	120			
h_{FE}^* DC Current Gain	$V_{CE} = 2.0V$ $I_C = 0.5A$	30			—
	$V_{CE} = 2.0V$ $I_C = 10A$	20		120	
	$V_{CE} = 2.0V$ $I_C = 25A$	12			
$V_{CE(sat)}^*$ Collector - Emitter Saturation Voltage	$I_C = 10A$ $I_B = 1.0A$			1.0	V
	$I_C = 25A$ $I_B = 2.5A$			1.8	
$V_{BE(sat)}^*$ Base Emitter Saturation Voltage	$I_C = 10A$ $I_B = 1.0A$			1.8	V
	$I_C = 25A$ $I_B = 2.5A$			2.5	
f_T Current Gain - Bandwidth Product	$I_C = 1.0A$ $V_{CE} = 10V$ $f_{test} = 10MHz$	40			MHz
C_{ob} Output Capacitance	$I_E = 0A$ $V_{CE} = 10V$ $f = 100kHz$			700	pF
t_r Rise Time	$V_{CC} = 80V$ $I_C = 10A$ $V_{BE(off)} = 6.0V$ $I_{B1} = 1.0A$			0.3	μs
t_s Storage	$V_{CC} = 80V$ $I_C = 10A$			1.0	
t_f Fall Time	$V_{BE(off)} = 6.0V$ $I_{B1} = I_{B2} = 1.0A$			0.25	

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

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