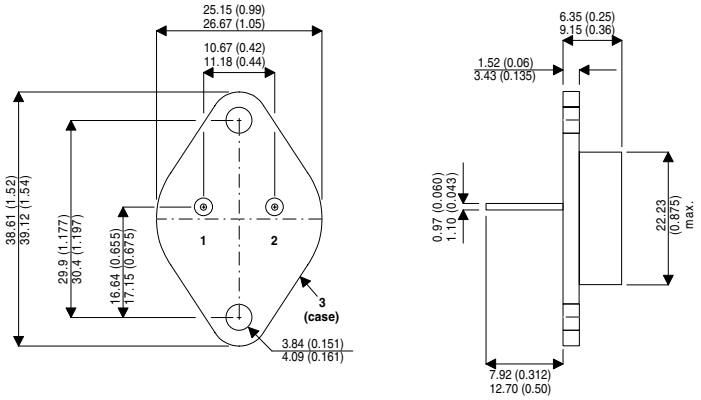
2N6436
2N6437
2N6438

HIGH POWER PNP SILICON TRANSISTORS

MECHANICAL DATA
Dimensions in mm (inches)



TO-3 Package (TO-204AA)

Pin 1 – Base Pin 2 – Emitter Case – Collector

DESCRIPTION

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

ABSOLUTE MAXIMUM RATINGS (T_{CASE} = 25°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°C	140W		
	Derate above 25°C	0.8W/°C		
T_{stg}, T_j	Operating and Storage Temperature Range	–65 to +200°C		

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THERMAL DATA

$R_{thj\text{-}case}$	Thermal Resistance Junction-case	Max	1.25	°C/W

ELECTRICAL CHARACTERISTICS FOR (T_{case} = 25°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°C				1.0	mA
		V_{CE} = 110V		**2N6437**			10	µA
		$V_{BE\ (off)}$ =-1.5V	T_C = 150°C				1.0	mA
		V_{CE} = 130V		**2N6436**			10	µA
		$V_{BE\ (off)}$ =-1.5V	T_C = 150°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	I_C = 50mA	I_B = 0	**2N6436**	80			V
				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 = 1.0AV				1.8	
		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 $V_{BE(off)}$ = 6.0V	I_C = 10A 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 ≤ 300µs , Duty Cycle ≤ 2.0%

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