

SILICON EPITAXIAL PNP TRANSISTOR

2N5883

- High Voltage, Low Saturation Voltages.
- Hermetic TO3 Metal Package.
- Designed For Power Switching and Linear Applications
- Screening Options Available



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

V_{CBO}	Collector – Base Voltage	-60V
V_{CEO}	Collector – Emitter Voltage	-60V
V_{EBO}	Emitter – Base Voltage	-5V
I_C	Continuous Collector Current	-25A
I_{CM}	Peak Collector Current	-50A
I_B	Base Current	-7.5A
P_D	Total Power Dissipation at $T_C = 25^\circ\text{C}$ Derate Above 25°C	200W 1.14W/ $^\circ\text{C}$
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	Max.	Units
$R_{\theta JC}$	Thermal Resistance, Junction To Case	0.875	$^\circ\text{C/W}$

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

Symbols	Parameters	Test Conditions	Min.	Typ	Max.	Units
$V_{(BR)CEO}^{(1)}$	Collector-Emitter Breakdown Voltage	$I_C = -50\text{mA}$	-60			V
I_{CEV}	Collector Cut-Off Current	$V_{CE} = -60\text{V}$ $V_{BE} = 1.5\text{V}$			-1.0	mA
		$T_C = 150^\circ\text{C}$			-10	
I_{CEO}	Collector Cut-Off Current	$V_{CE} = -30\text{V}$ $I_B = 0$			-2	
I_{CBO}	Collector Cut-Off Current	$V_{CB} = -60\text{V}$ $I_E = 0$			-1.0	
I_{EBO}	Emitter Cut-Off Current	$V_{EB} = -5\text{V}$ $I_C = 0$			-1.0	
$h_{FE}^{(1)}$	Forward-current transfer ratio	$I_C = -3\text{A}$ $V_{CE} = -4\text{V}$	35			
		$I_C = -10\text{A}$ $V_{CE} = -4\text{V}$	20		100	
		$I_C = -25\text{A}$ $V_{CE} = -4\text{V}$	4			
$V_{BE}^{(1)}$	Base-Emitter Voltage	$I_C = -10\text{A}$ $V_{CE} = -4\text{V}$			-1.5	V
$V_{CE(sat)}^{(1)}$	Collector-Emitter Saturation Voltage	$I_C = -15\text{A}$ $I_B = -1.5\text{A}$			-1.0	
		$I_C = -25\text{A}$ $I_B = -6.25\text{A}$			-4	
$V_{BE(sat)}^{(1)}$	Base-Emitter Saturation Voltage	$I_C = -25\text{A}$ $I_B = -6.25\text{A}$			-2.5	

DYNAMIC CHARACTERISTICS

f_T	Transition Frequency	$I_C = -1.0\text{A}$ $V_{CE} = -10\text{V}$ $f = 1.0\text{MHz}$	4			MHz
C_{obo}	Output Capacitance	$V_{CB} = -10\text{V}$ $I_E = 0$ $f = 1.0\text{MHz}$			1000	pF
t_r	Rise Time	$V_{CC} = -30\text{V}$ $I_C = -10\text{A}$ $I_{B1} = -I_{B2} = -1.0\text{A}$			0.7	μs
t_s	Storage Time				1.0	
t_f	Fall Time				0.8	

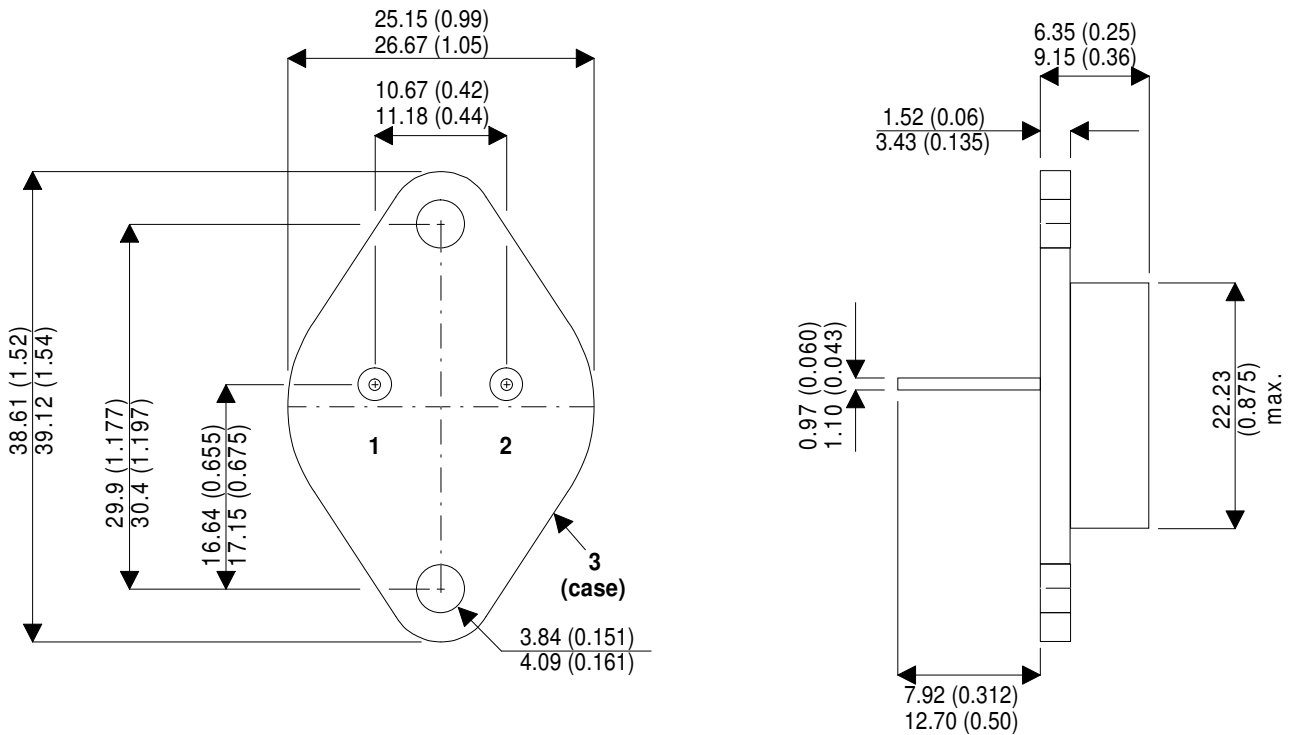
Notes

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

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MECHANICAL DATA

Dimensions in mm (inches)



TO3 (TO-204AA) METAL PACKAGE Underside View

Pin 1 - Base

Pin 2 - Emitter

Case - Collector