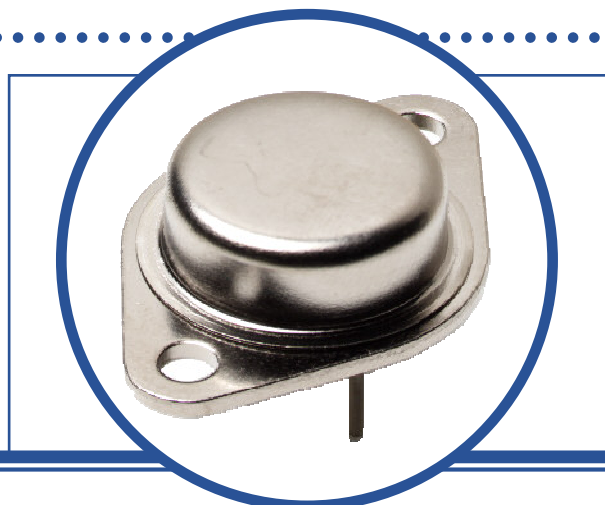


HIGH POWER NPN SILICON TRANSISTOR

STP5508

- Hermetic Metal TO3 Package.
- High Current
- Screening Options Available



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

V_{CBO}	Collector – Base Voltage	140V
V_{CEO}	Collector – Emitter Voltage	120V
V_{EB}	Emitter – Base Voltage	6V
I_C	Continuous Collector Current	50A
I_{CM}	Peak Collector Current	100A
I_B	Base Current	20A
P_D	Total Power Dissipation at $T_C = 25^\circ\text{C}$ Derate Above 25°C	250W 1.43W/ $^\circ\text{C}$
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.	Units
$R_{\theta JC}$	Thermal Resistance, Junction To Case			0.7	$^\circ\text{C/W}$

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.



HIGH POWER NPN SILICON TRANSISTOR STP5508

ELECTRICAL CHARACTERISTICS (T_C = 25°C unless otherwise stated)

Symbols	Parameters	Test Conditions	Min.	Typ	Max.	Units
V _{(BR)CEO} ⁽¹⁾	Collector-Emitter Breakdown Voltage	I _C = 10mA	120			V
I _{CEO}	Collector Cut-Off Current	V _{CE} = 60V I _B = 0			50	μA
I _{CEX}	Collector Cut-Off Current	V _{CE} = 140V V _{BE(off)} = 1.5V			10	mA
		T _C = 150 °C			1.0	
I _{EBO}	Emitter Cut-Off Current	V _{EB} = 6V I _C = 0			100	μA
V _{CE(sat)} ⁽¹⁾	Collector-Emitter Saturation Voltage	I _C = 20A I _B = 2.0A			1.0	V
		I _C = 50A I _B = 10A			3	
V _{BE(sat)} ⁽¹⁾	Base-Emitter Saturation Voltage	I _C = 20A I _B = 2.0A			1.8	
		I _C = 50A I _B = 10A			3.5	
V _{BE(on)} ⁽¹⁾	Base-Emitter On Voltage	I _C = 20A V _{CE} = 4V			1.8	
h _{FE} ⁽¹⁾	Forward-current transfer ratio	I _C = 1.0A V _{CE} = 4V	50			-
		I _C = 20A V _{CE} = 4V	50		120	
		I _C = 50A V _{CE} = 4V	10			

DYNAMIC CHARACTERISTICS

h _{fe}	Magnitude of common emitter small-signal short-circuit forward current transfer ratio	I _C = 1.0A f = 10MHz	V _{CE} = 10V	1			-
C _{obo}	Output Capacitance	V _{CB} = 10V f = 1.0MHz	I _E = 0			600	pF
t _r	Rise Time	V _{CC} = 80V I _C = 20A I _{B1} = I _{B2} = 2A				0.35	μS
t _s	Storage Time					1.1	
t _f	Fall Time					0.25	

Notes

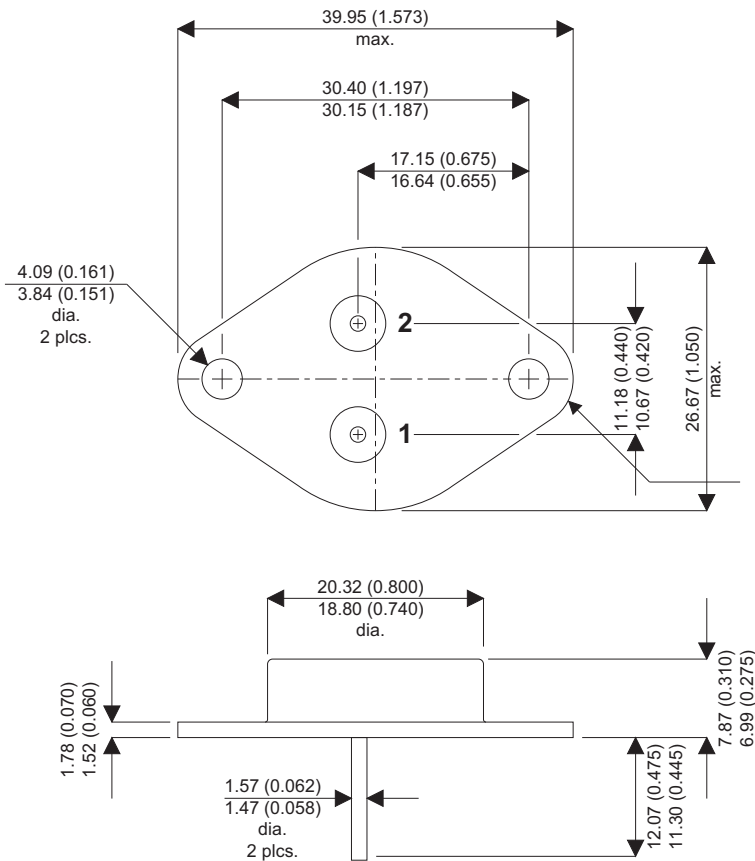
(1) Pulse Width ≤ 300μs, δ ≤ 2%

HIGH POWER NPN SILICON TRANSISTOR

STP5508

MECHANICAL DATA

Dimensions in mm (inches)



TO3 (TO-204AE)

Pin 1 - Base

Pin 2 - Emitter

Case - Collector