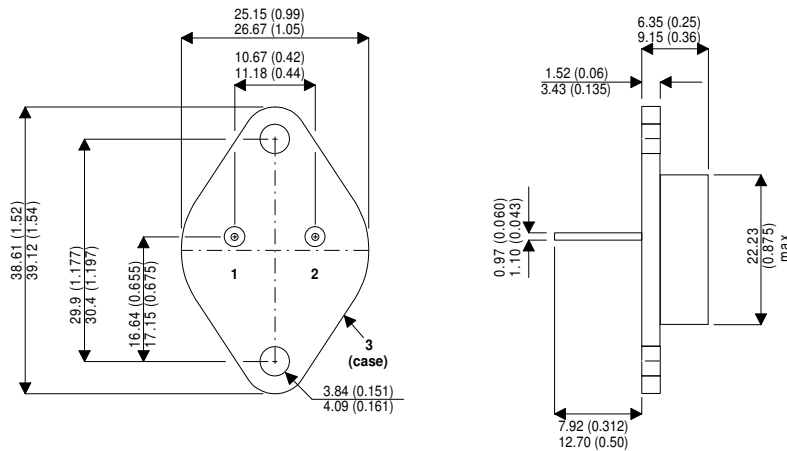


MECHANICAL DATA

Dimensions in mm (inches)



TO3 (TO204AA)

Pin 1 = Base Pin 2 = Emitter Case = Collector

HIGH CURRENT NPN SILICON TRANSISTOR

FEATURES

- HIGH SWITCHING CURRENTS
- HIGH RELIABILITY
- CECC SCREENING OPTIONS
- SPACE QUALITY LEVELS OPTIONS
- JAN LEVEL SCREENING OPTIONS

APPLICATIONS

- SWITCHING REGULATORS
- LINEAR APPLICATIONS

ABSOLUTE MAXIMUM RATINGS

$T_{CASE} = 25^{\circ}C$ unless otherwise stated

V_{CBO}	Collector - Base Voltage	300V
V_{CEO}	Collector - Emitter Voltage	180V
V_{EBO}	Emitter - Base Voltage	10V
I_C	Continuous Collector Current	6A
I_B	Base Current	3A
P_{tot}	Total Power Dissipation at $T_{case} = 25^{\circ}C$ Derate above $25^{\circ}C$	50W 0.29 W/ $^{\circ}C$
T_J	Junction Temperature	200 $^{\circ}C$
T_{stg}	Storage Temperature	-65 to 200 $^{\circ}C$

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THERMAL CHARACTERISTICS

		Max	Unit
$R_{th(j-case)}$	Thermal resistance to case	3.5	$^{\circ}C/W$

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

Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I_{CEO}	Collector Cut-Off Current $V_{CE} = 140V$ $I_B = 0$			1.0	mA
I_{CES}	Collector Cut-Off Current $V_{CE} = 180V$ $V_{BE} = 0$			1.0	
I_{EBO}	Emitter Cut-Off Current $V_{EB} = 10V$ $I_C = 0$			1.0	
$V_{(BR)CEO}^*$	Collector-Emitter Breakdown Voltage $I_C = 50mA$ $I_B = 0$	180			V
$V_{(BR)CBO}^*$	Collector-Base Breakdown Voltage $I_C = 3mA$	300			
$V_{CE(sat)}^*$	Collector-Emitter Saturation Voltage $I_C = 2.0A$ $I_B = 0.25A$			0.6	
$V_{BE(sat)}^*$	Base-Emitter Saturation Voltage $I_C = 2.0A$ $I_B = 0.25A$			1.2	
h_{FE}^*	Forward-current transfer ratio	$I_C = 1.0A$ $V_{CE} = 4.0V$		55	
		$I_C = 2.0A$ $V_{CE} = 4.0V$	15	20	

DYNAMIC CHARACTERISTICS

C_{obo}	Output Capacitance	$I_E = 0$ $f = 1.0MHz$	$V_{CB} = 10V$		65	120	pF
F_T	Transition Frequency	$I_C = 0.5A$ $f = 10.0MHz$	$V_{CE} = 15V$	10			MHz
T_{on}	Turn-on time	$I_C = 5.0A$	$I_{B1} = 1.0A$			1.0	μs
T_{off}	Turn-off time	$I_C = 5.0A$	$I_{B1} = -I_{B2} = 1.0A$			2	

* Pulse test $t_p = 300\mu s$, $\delta < 2\%$

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