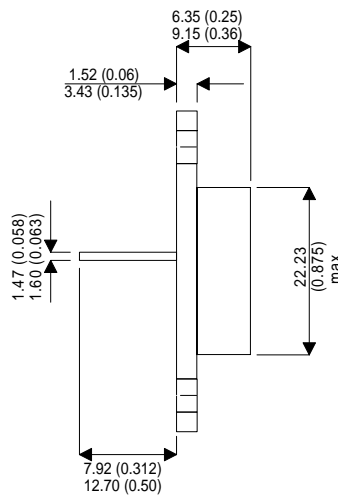
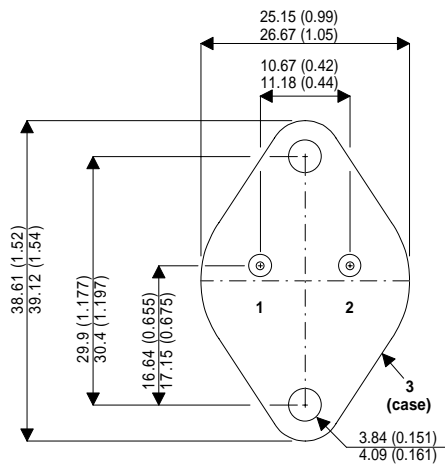


MECHANICAL DATA

Dimensions in mm(inches)



TO3 (TO204AE)

Pin 1 = Base Pin 2 = Emitter Case = Collector

**HIGH CURRENT
NPN SILICON
TRANSISTOR**

FEATURES

- FAST SWITCHING
- HIGH PULSE POWER

APPLICATIONS

- POWER SWITCHING CIRCUITS
- MOTOR CONTROL

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

V_{CBO}	Collector – Base Voltage ($I_E = 0V$)	350V
V_{CEO}	Collector – Emitter Voltage ($I_B = 0V$)	250V
V_{EBO}	Collector – Emitter Voltage ($I_C = 0V$)	10V
I_C	Collector Current	60A
I_{CM}	Peak Collector Current ($t_p = 10\text{ ms}$)	80A
I_B	Base Current	16A
P_{tot}	Total Power Dissipation at $T_{case} \leq 25^{\circ}C$	350W
T_{stg}	Storage Temperature	-65°C to +200°C
T_j	Max. Operating Junction Temperature	200°C
$R_{\theta JC}$	Junction to Case Thermal Resistance	0.5°C/W

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

Parameter	Test Conditions	Min.	Typ.	Max.	Unit
$V_{(BR)CEO}^*$ Collector - Emitter Breakdown Voltage	$I_C = 200mA$ $I_B = 0$	250			V
$V_{(BR)EBO}$ Emitter – Base Breakdown Voltage	$I_C = 0$ $I_E = 10mA$	10			V
I_{CEO} Collector Emitter Cut-off Current	$V_{CE} = 250V$ $I_B = 0$			1.0	mA
I_{CBO} Collector -Base Cut-off Current	$V_{CE} = 350V$ $I_E = 0$ $T_C = 125^{\circ}C$			0.2	mA
				2	
I_{EBO} Emitter–Base Cut-off Current	$I_C = 0$ $V_{EB} = 7V$			0.2	mA
$V_{CE(sat)}^*$ Collector – Emitter Saturation Voltage	$I_C = 25A$ $I_B = 2A$			1.0	V
	$I_C = 40A$ $I_B = 4A$		0.7	1.5	
$V_{BE(sat)}^*$ Base – Emitter Saturation Voltage	$I_C = 25A$ $I_B = 2A$			1.8	V
	$I_C = 40A$ $I_B = 4A$		1.5	2	
h_{FE} DC Current Gain	$I_C = 5A$ $V_{CE} = 4V$	20		100	—
	$I_C = 40A$ $V_{CE} = 4V$	15			
$I_{S/b}$ Second Breakdown Collector Current	$V_{CE} = 20V$ $t = 1s$	17.5			A
f_t Transition Frequency	$I_C = 1.0A$ $V_{CE} = 5V$ $f = 1MHz$		10	16	MHz
t_{on} Turn–On Time	$I_C = 40A$ $I_B = 4A$ $V_{CC} = 100V$		0.3	1.0	μs
t_f Fall Time	$I_C = 40A$ $I_{B1} = 4A$ $I_{B2} = 4A$ $V_{CC} = 100V$		0.2	0.6	
t_s Storage Time	$I_C = 40A$ $I_{B1} = 4A$ $I_{B2} = 4A$ $V_{CC} = 100V$		1.2	2	

*Pulsed $t_p = 300\mu s$ @ < 1%

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