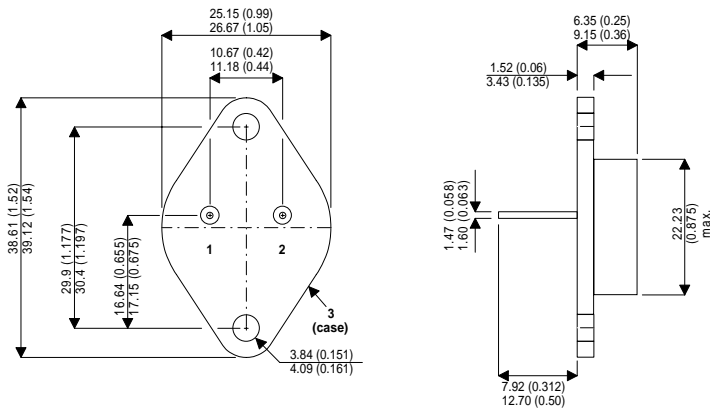


MECHANICAL DATA

Dimensions in mm(inches)

NPN SILICON POWER TRANSISTOR



FEATURES

- HIGH CURRENT
- FAST SWITCHING
- HIGH RELIABILITY

APPLICATIONS

- POWER SWITCHING CIRCUITS
- MOTOR CONTROL

TO-204AE (TO-3)

PIN 1 — Base PIN 2 — Emitter Case is Collector.

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

V_{CES}	Collector – Emitter Voltage ($V_{BE} = 0V$)	900V
V_{CEO}	Collector – Emitter Voltage ($I_B = 0$)	450V
V_{EBO}	Emitter – Base Voltage ($I_C = 0$)	7V
I_C	Collector Current	15A
I_{CM}	Peak Collector Current ($t_p = 10$ ms)	30A
I_B	Base Current	10A
P_{tot}	Total Power Dissipation at $T_{case} \leq 25^{\circ}C$	175W
T_{stg}	Storage Temperature	-65 to 200°C
T_j	Junction Temperature	200°C
$R_{\theta JC}$	Thermal Resistance Junction to Case	1.0°C/W

Semelab Plc 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.

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

Parameter	Test Conditions	Min.	Typ.	Max.	Unit
$V_{CEO(BR)^*}$ Collector - Emitter Breakdown Voltage	$I_C = 100mA$	450			V
I_{CES} Collector Cut-off Current	$V_{CE} = 900V$ $V_{BE} = 0V$ $T_C = 125^{\circ}C$			500	μA
				3	mA
I_{EBO} Emitter Cut-off Current	$I_C = 0$ $V_{EB} = 7V$			1.0	mA
$V_{CE(sat)^*}$ Collector - Emitter Saturation Voltage	$I_C = 10A$ $I_B = 2A$			1.5	V
	$I_C = 7A$ $I_B = 1.0A$			1.5	
$V_{BE(sat)^*}$ Base - Emitter Saturation Voltage	$I_C = 10A$ $I_B = 2A$			1.8	V
	$I_C = 7A$ $I_B = 1.0A$			1.4	
t_{on} Turn-On Time	$I_C = 10A$ $V_{CC} = 250V$ $I_{B1} = 2A$			0.75	μs
t_s Storage Time	$I_C = 10A$ $V_{CC} = 250V$ $I_{B1} = 2A$ $I_{B2} = -2A$			3	μs
t_f Fall Time				0.8	

(*) Pulse test: $t_p \leq 300\mu s$, $\delta \leq 1.5\%$