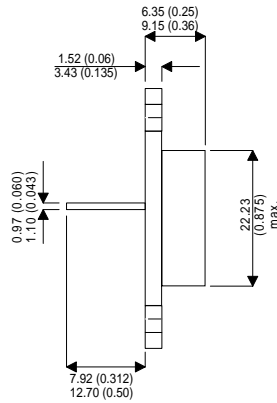
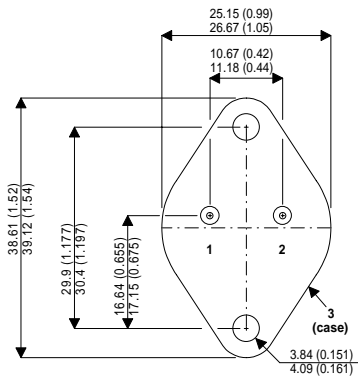


MECHANICAL DATA

Dimensions in mm

NPN SILICON POWER TRANSISTOR



FEATURES

- Low saturation voltages.
- High current gain at 40A. (20 Typ.)
- Hermetic metal package.

APPLICATIONS

- High power switching circuits.
- Switching regulators.
- Motor drive controls.

TO3 (TO-204AA)

Pin 1 – Base Pin 2 – Emitter Case is Collector

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

V_{CBO}	Collector – Base Voltage ($I_E = 0$)	275V
V_{CEO}	Collector – Emitter Voltage ($I_B = 0$)	250V
V_{EBO}	Emitter – Base Voltage ($I_C = 0$)	10V
I_C	Continuous Collector Current	50A
$I_{C(PK)}$	Peak Collector Current	70A
I_C	Continuous Base Current	10A
$I_{B(PK)}$	Peak Base Current	15A
P_{tot}	Total Dissipation at $T_{case} = 25^{\circ}C$	175W
T_{stg}	Operating and Storage Temperature Range	-65 to +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
ELECTRICAL CHARACTERISTICS					
$V_{CEO(sus)}$ *	Collector – Emitter Sustaining Voltage	$I_C = 200mA$ $I_B = 0$	250		V
$V_{(BR)CBO}$	Collector – Base Breakdown Voltage	$I_C = 100\mu A$ $I_E = 0$	275		
$V_{(BR)EBO}$	Emitter – Base Breakdown Voltage	$I_E = 100\mu A$ $I_C = 0$	10		
I_{CBO}	Collector – Base Cut-Off Current	$V_{CB} = 200V$ $I_E = 0$ $T_C = 150^{\circ}C$		10 250	μA
h_{FE} *	DC Current Gain	$I_C = 40A$ $V_{CE} = 10V$ $I_C = 50A$ $V_{CE} = 10V$	8 5		40 —
$V_{CE(sat)}$ *	Collector – Emitter Saturation Voltage	$I_C = 40A$ $I_B = 8A$			1.5
$V_{BE(sat)}$ *	Base – Emitter Saturation Voltage	$I_C = 40A$ $I_B = 8A$			2.0
DYNAMIC CHARACTERISTICS					
f_t	Transition Frequency	$I_C = 1.0A$ $V_{CE} = 10V$ $f = 1MHz$	10		MHz
C_{ob}	Output Capacitance	$I_E = 0$ $V_{BC} = 10V$ $f = 1MHz$			600
t_{on}	Turn On Time	$V_{CC} = 100V$ $I_C = 20A$			1.0
t_s	Storage Time	$I_{B1} = I_{B2} = 2.0A$			2.5
t_f	Fall Time	$t_p = 10\mu s$			0.6

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