New Jersey Semi-Conductor Products, Inc.

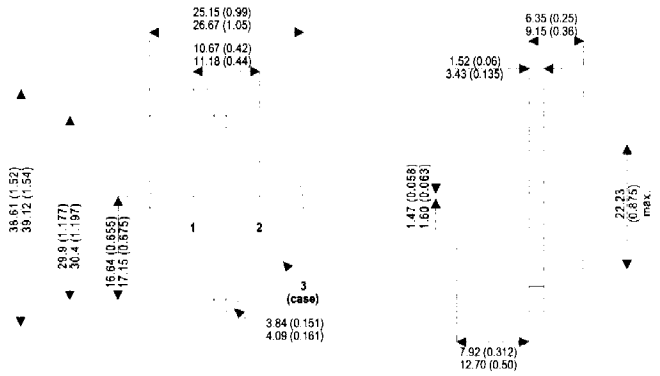
20 STERN AVE.
SPRINGFIELD, NEW JERSEY 07081
U.S.A.

TELEPHONE: (973) 376-2922
(212) 227-6005

BUW46

MECHANICAL DATA

Dimensions in mm(inches)



TO–204AE (TO–3)

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

NPN SILICON POWER TRANSISTOR

FEATURES

- **HIGH CURRENT**
- **FAST SWITCHING**
- **HIGH RELIABILITY**

APPLICATIONS

- **POWER SWITCHING CIRCUITS**
- **MOTOR CONTROL**

ABSOLUTE MAXIMUM RATINGS (T_{case} = 25°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 $T_{case} \leq 25°C$	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

ELECTRICAL CHARACTERISTICS (T_{case} = 25°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			500	µA
			T_C = 125°C			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	I_{B1} =2A			3	µs
t_f	Fall Time	V_{CC} = 250V	I_{B2} = –2A			0.8	

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