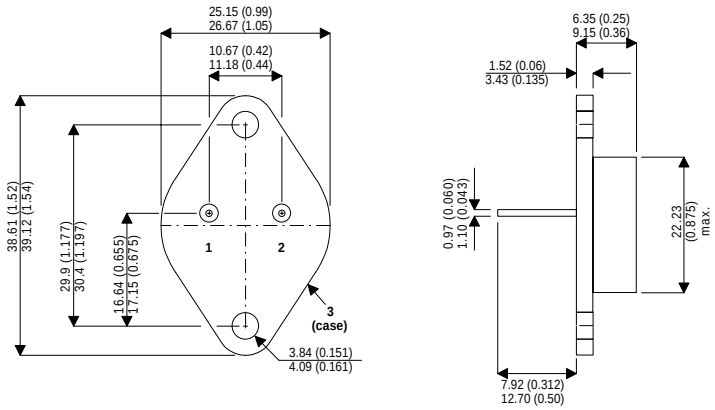
BUV20

MECHANICAL DATA
Dimensions in mm(inches)



TO–3

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

NPN MULTI - EPITAXIAL POWER TRANSISTOR

FEATURES

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

APPLICATIONS

- **Industrial Equipment**

ABSOLUTE MAXIMUM RATINGS (T_{case} = 25°C unless otherwise stated)

V_{CBO}	Collector – Base Voltage (I_E = 0)	160V
V_{CER}	Collector – Emitter Voltage (R_{BE} = 100Ω)	150V
V_{CEX}	Collector – Emitter Voltage (V_{BE} = -1.5V)	160V
V_{CEO}	Collector – Emitter Voltage (I_B = 0)	125V
V_{EBO}	Emitter – Base Voltage (I_C = 0)	7V
I_C	Collector Current	50A
I_{CM}	Peak Collector Current (t_p = 10 ms)	60A
I_B	Base Current	10A
P_{tot}	Total Power Dissipation at $T_{case} \leq 25°C$	250W
T_{stg},	Storage Temperature	–65 to 200°C
T_j	Junction Temperature	200°C

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ELECTRICAL CHARACTERISTICS (T_{case} = 25°C unless otherwise stated)

Parameter		Test Conditions		Min.	Typ.	Max.	Unit
$V_{CEO(sus)}$*	Collector - Emitter Sustaining Voltage	I_C = 250mA L = 25mH	I_B = 0	125			V
$V_{(BR)EBO}$	Emitter – BaseVoltage	I_E = 50mA		7			
$V_{CE(sat)}$*	Collector Emitter Saturation Voltage	I_C = 25A	V_{CE} = 2.5A		0.3	0.6	
		I_C = 50A	I_B = 5A		0.7	1.2	
$V_{BE(sat)}$*	Base Emitter Saturation Voltage	I_C = 50A	I_B =5A		1.4	2	
I_{CEO}	Collector Cut-off Current	V_{CE} = 100V	I_B =0			3	mA
I_{CEX}	Collector Cut-off Current	V_{CE} = V_{CEX}	V_{BE} = –1.5V			3	
			T_C = 125°C			12	
I_{EBO}	Emitter Cut-off Current	I_C = 0	V_{EB} = 5V			1	
h_{FE}*	DC Current Gain	V_{CE} = 2V	I_C = 25A	20		60	—
		V_{CE} = 4V	I_C = 50A	10			
f_T	Transition Frequency	I_C = 2A V_{CE} = 15V	f = 100MHz	8			MHz
t_{on}	Turn–On Time	I_C = 50A	I_B =5A			1.5	µs
t_s	Storage Time	I_C = 50A	I_{B1} =-I_{B2} =5A			1.2	
t_r	Fall Time	I_C = 50A	I_{B1} =-I_{B2} =5A			0.3	

NOTES

* Pulse Test: t_p = 300µs, $\delta \leq 2\%$

THERMAL CHARACTERISTICS

$R_{\theta JC}$ Thermal Resistance Junction to Case			0.7	°C/W