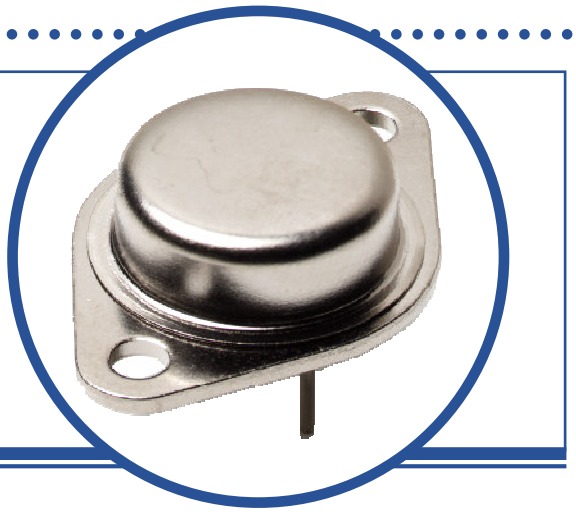
SILICON MULTI-EPITAXIAL NPN TRANSISTOR

TT electronics
Semelab Limited

BUX12

- High Current Capability.
- Hermetic TO3 Metal package.
- Ideally suited for Motor Control, Switching and Linear Applications
- Screening Options Available



ABSOLUTE MAXIMUM RATINGS (T_C = 25°C unless otherwise stated)

V_{CBO}	Collector – Base Voltage		300V
V_{CEX}	Collector – Emitter Voltage	V_{BE} = -1.5V	300V
V_{CEO}	Collector – Emitter Voltage		250V
V_{EBO}	Emitter – Base Voltage		7V
I_C	Continuous Collector Current		20A
I_{CM}	Peak Collector Current	t_p = 10ms	25A
I_B	Base Current		4A
P_D	Total Power Dissipation at	T_C = 25°C	110W
		Derate Above 25°C	0.63W/°C
T_J	Junction Temperature Range		-65 to +200°C
T_{stg}	Storage Temperature Range		-65 to +200°C

THERMAL PROPERTIES

Symbols	Parameters	Min.	Typ.	Max.	Units
$R_{\theta JC}$	Thermal Resistance, Junction To Case			1.59	°C/W

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ELECTRICAL CHARACTERISTICS (T_C = 25°C unless otherwise stated)

Symbols	Parameters	Test Conditions		Min.	Typ	Max.	Units
I_{CEO}	Collector Cut-Off Current	V_{CE} = 200V	I_B = 0			1.5	mA
I_{CEX}	Collector Cut-Off Current	V_{CE} = 300V	V_{BE} = -1.5V			1.5	
		T_C = 125°C				6	
I_{EBO}	Emitter Cut-Off Current	V_{EB} = 5V	I_C = 0			1.0	
$V_{(BR)CEO}$ (1)	Collector-Emitter Breakdown Voltage	I_C = 10mA		250			V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	I_E = 1.0mA		7			
$V_{CE(sat)}$ (1)	Collector-Emitter Saturation Voltage	I_C = 5A	I_B = 0.5A			1.0	
		I_C = 10A	I_B = 1.25A			1.5	
$V_{BE(sat)}$ (1)	Base-Emitter Saturation Voltage	I_C = 10A	I_B = 1.25A			1.5	
h_{FE} (1)	Forward-current transfer ratio	I_C = 5A	V_{CE} = 4V	20		60	
		I_C = 10A	V_{CE} = 4V	10			

DYNAMIC CHARACTERISTICS

f_T	Transition Frequency	I_C = 1.0A f = 10MHz	V_{CE} = 15V	8			MHz
t_{on}	Turn-On Time	I_C = 10A I_{B1} = 1.25A	V_{CC} = 150V			1.0	µs
t_s	Storage Time	I_C = 10A	V_{CC} = 150V			2	
t_f	Fall Time	I_{B1} = -IB2 = 1.25A				0.5	

Notes
(1) Pulse Width ≤ 300us, δ ≤ 2%

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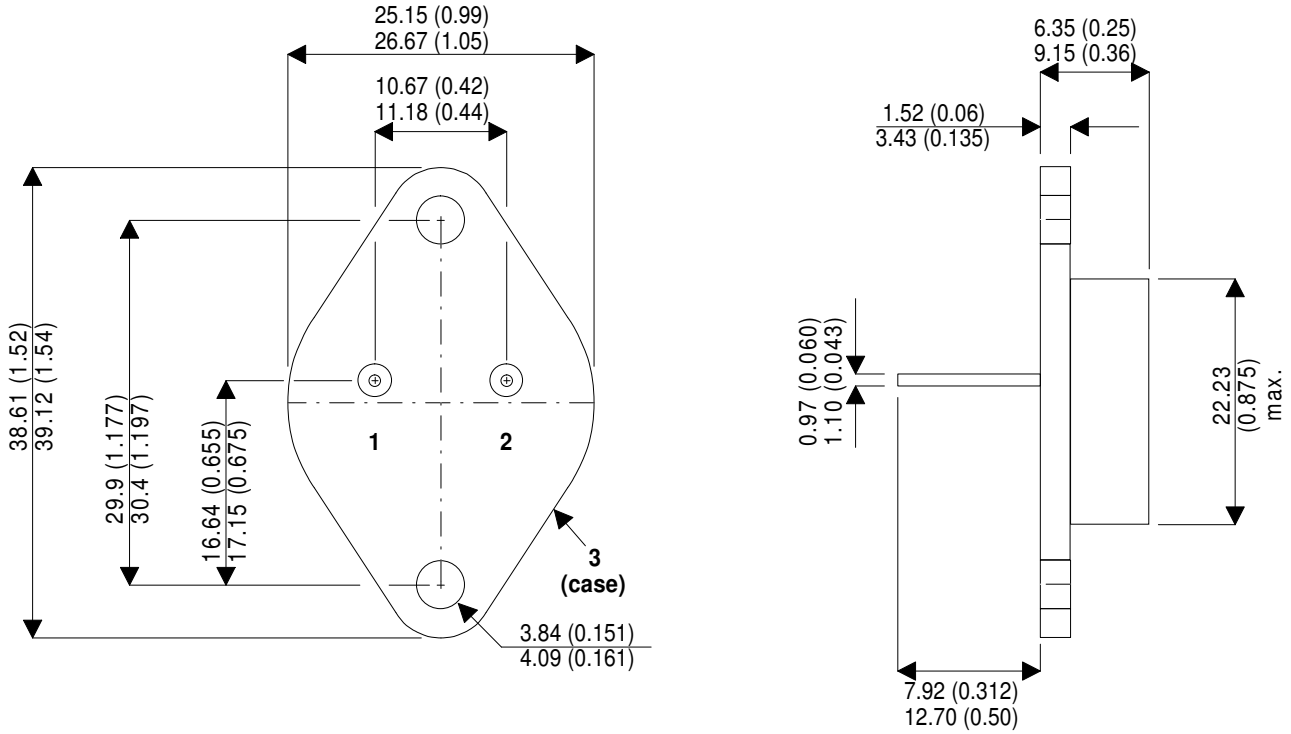
MECHANICAL DATA

Dimensions in mm (inches)



TO3 (TO-204AA) METAL PACKAGE

Underside View

Pin 1 - Base Pin 2 - Emitter Case - Collector