SILICON MULTI-EPITAXIAL NPN TRANSISTOR

TT electronics
Semelab Limited

BUX23

- High Current, Fast Switching.
- Hermetic Metal TO3 Package.
- Ideally suited for Motor Control and Power Switching Circuits
- Screening Options Available

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

V_{CBO}	Collector – Base Voltage		400V
V_{CEX}	Collector – Emitter Voltage	V_{BE} = -1.5V	400V
V_{CEO}	Collector – Emitter Voltage		325V
V_{EBO}	Emitter – Base Voltage		7V
I_C	Continuous Collector Current		30A
I_{CM}	Peak Collector Current	t_p = 10ms	40A
I_B	Base Current		6A
P_D	Total Power Dissipation at	T_C = 25°C	250W
		Derate Above 25°C	1.67W/°C
T_J	Junction Temperature Range		-65 to +175°C
T_{stg}	Storage Temperature Range		-65 to +175°C

THERMAL PROPERTIES

Symbols	Parameters	Min.	Typ.	Max.	Units
$R_{\theta JC}$	Thermal Resistance, Junction To Case			0.6	°C/W

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

Symbols	Parameters	Test Conditions		Min.	Typ	Max.	Units
$V_{(BR)CEO}$ [1]	Collector-Emitter Breakdown Voltage	I_C = 0.2mA		325			V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	I_E = 50mA		7			
I_{CEO}	Collector Cut-Off Current	V_{CE} = 260V	I_B = 0			3	mA
I_{CEX}	Collector Cut-Off Current	V_{CE} = 400V	V_{BE} = -1.5V			3	
			T_C = 125°C			12	
I_{EBO}	Emitter Cut-Off Current	V_{EB} = 5V	I_C = 0			1.0	
$V_{CE(sat)}$ [1]	Collector-Emitter Saturation Voltage	I_C = 8A	I_B = 1.6A		0.2	0.8	V
		I_C = 16A	I_B = 3.2A		0.35	1.0	
$V_{BE(sat)}$ [1]	Base-Emitter Saturation Voltage	I_C = 16A	I_B = 3.2A		1.15	1.5	
h_{FE} [1]	Forward-current transfer ratio	I_C = 8A	V_{CE} = 4V	12		60	
		I_C = 16A	V_{CE} = 4V	8			

DYNAMIC CHARACTERISTICS

f_T	Transition Frequency	I_C = 2A f = 10MHz	V_{CE} = 15V	8			MHz
t_{on}	Turn-On Time	I_C = 16A	I_{B1} = 3.2A		0.55	1.3	µs
t_s	Storage Time	I_C = 16A	I_{B1} = $-I_{B2}$ = 3.2A		1.7	2.5	
t_f	Fall Time				0.26	1.2	

Notes
(1) Pulse Width ≤ 380us, δ ≤ 2%

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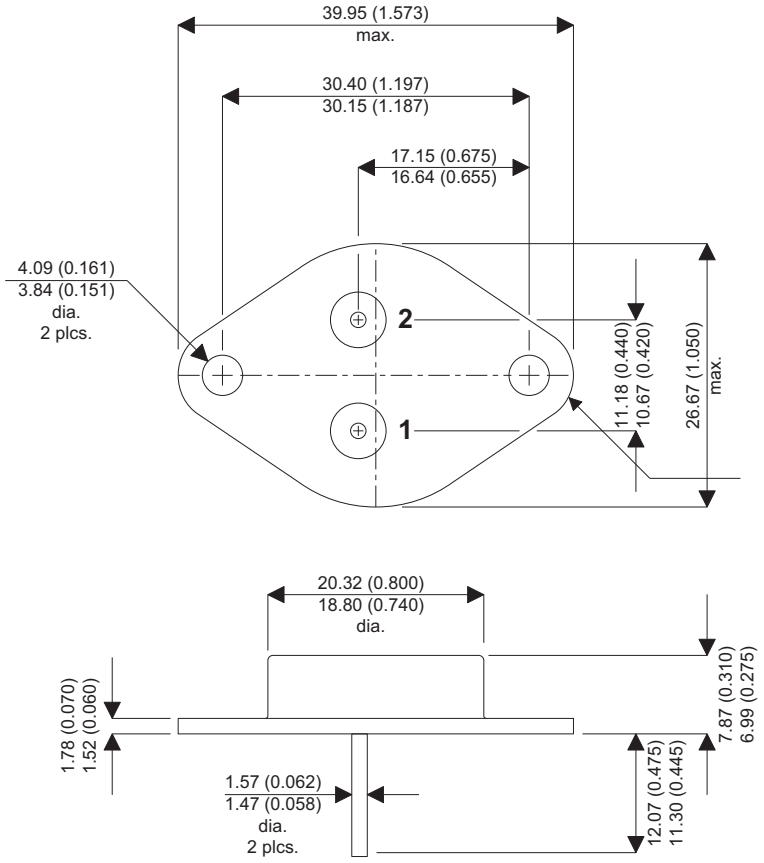
MECHANICAL DATA

Dimensions in mm (inches)



TO3 (TO-204AE)

Pin 1 - Base Pin 2 - Emitter Case - Collector