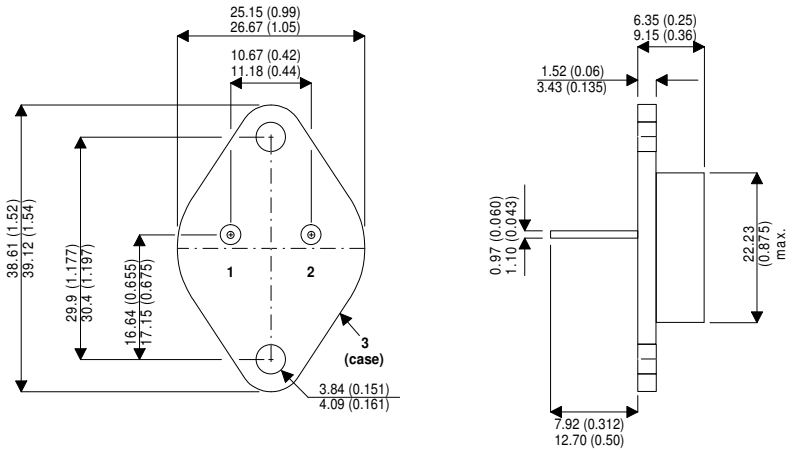
BDY25B

MECHANICAL DATA
Dimensions in mm (inches)



TO3 (TO204AA)

Pin 1 = Base Pin 2 = Emitter Case = Collector

HIGH CURRENT
NPN SILICON TRANSISTOR

FEATURES

- HIGH CURRENT FAST SWITCHING
- HIGH RELIABILITY
- SCREENING OPTIONS AVAILABLE

APPLICATIONS

- SWITCHING CIRCUITS
- LARGE SIGNAL/POWER AMPLIFIERS

ABSOLUTE MAXIMUM RATINGS

T_{CASE} = 25°C unless otherwise stated			
V_{CBO}	Collector - Base Voltage		200V
V_{CEO}	Collector - Emitter Voltage		140V
V_{EBO}	Emitter – Base Voltage		10V
I_C	Continuous Collector Current		6A
I_B	Base Current		3A
P_{tot}	Total Power Dissipation at	T_{case} = 25°C	50W
		Derate above 25°C	0.29 W/°C
T_J	Junction Temperature		200°C
T_{stg}	Storage Temperature		-65 to 200°C

Semelab plc. Telephone +44(0)1455 556565. Fax +44(0)1455 552612.
E-mail: sales@semelab.co.uk Website: http://www.semelab.co.uk

BDY25B

THERMAL CHARACTERISTICS

		Max	Unit
R_{th} j-case	Thermal resistance to case	3.5	℃/W

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

	Parameter	Test Conditions		Min.	Typ.	Max.	Unit
I_{CEO}	Collector Cut-Off Current	V_{CE} = 140V	I_B = 0			1.0	mA
I_{CES}	Collector Cut-Off Current	V_{CE} = 180V	V_{BE} = 0			1.0	
I_{EBO}	Emitter Cut-Off Current	V_{EB} = 10V	I_C = 0			1.0	
$V_{(BR)CEO}$*	Collector-Emitter Breakdown Voltage	I_C = 50mA	I_B = 0	140			V
$V_{(BR)CBO}$*	Collector-Base Breakdown Voltage	I_C = 3mA		200			
$V_{CE(sat)}$*	Collector-Emitter Saturation Voltage	I_C = 2.0A	I_B = 0.25A			0.6	
$V_{BE(sat)}$*	Base-Emitter Saturation Voltage	I_C = 2.0A	I_B = 0.25A			1.2	
h_{FE}*	Forward-current transfer ratio	I_C = 1.0A	V_{CE} = 4.0V		65		
		I_C = 2.0A	V_{CE} = 4.0V	30	45	90	

DYNAMIC CHARACTERISTICS

C_{obo}	Output Capacitance	I_E = 0 f = 1.0MHz	V_{CB} = 10V		65	120	pF
F_T	Transition Frequency	I_C = 0.5A f = 10.0MHz	V_{CE} = 15V	10			MHz
T_{on}	Turn-on time	I_C= 5.0A	I_{B1}= 1.0A		0.3	0.5	µs
T_{off}	Turn-off time	I_C= 5.0A	I_{B1}=-I_{B2}= 1.0A		1.5	2.0	

* Pulse test t_p = 300µs, δ < 2%

Semelab plc. Telephone +44(0)1455 556565. Fax +44(0)1455 552612.
E-mail: sales@semelab.co.uk Website: http://www.semelab.co.uk