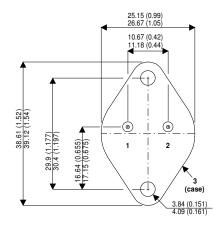
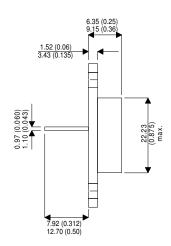


BDY25B

MECHANICAL DATA

Dimensions in mm (inches)





HIGH CURRENT NPN SILICON TRANSISTOR

FEATURES

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

APPLICATIONS

- SWITCHING CIRCUITS
- LARGE SIGNAL/POWER AMPLIFIERS

TO3 (TO204AA)

Pin 1 = Base Pin 2 = Emitter Case = Collector

ABSOLUTE MAXIMUM RATINGS

$T_{CASE} = 25$	$5^{\circ}\mathrm{C}$ unless otherwise state		
V_{CBO}	Collector - Base Voltage		200V
$V_{\sf CEO}$	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 ℃	0.29 W/°C
T_J	Junction Temperature		200℃
T_{stg}	Storage Temperature		-65 to 200℃

Semelab Plc reserves the right to change test conditions, parameter limits and package dimensions without notice. Information furnished by Semelab is believed to be both accurate and reliable at the time of going to press. However Semelab assumes no responsibility for any errors or omissions discovered in its use. Semelab encourages customers to verify that datasheets are current before placing orders.

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BDY25B

THERMAL CHARACTERISTICS	Max	Unit
R _{th} j-case Thermal resistance to case	3.5	°C/W

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

	Parameter	Test Conditions		Min.	Тур.	Max.	Unit
I _{CEO}	Collector Cut-Off Current	V _{CE} = 140V	$I_B = 0$			1.0	
I _{CES}	Collector Cut-Off Current	V _{CE} = 180V	$V_{BE} = 0$			1.0	mA
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 _{(BR)CBO} *	Collector-Base Breakdown Voltage	$I_C = 3mA$		200			V
V _{CE(sat)} *	Collector-Emitter Saturation Voltage	I _C = 2.0A	$I_B = 0.25A$			0.6	V
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	110
T _{off}	Turn-off time	I _C = 5.0A	I _{B1} =-I _{B2} = 1.0A		1.5	2.0	μs

^{*} Pulse test t_p = 300 μ s, δ < 2%

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