

PNP DARLINGTON SILICON POWER TRANSISTOR

BDX 66, A, B, C

- Hermetic Metal TO3 Package.
- Ideal for General Purpose Low Frequency Switching Applications
- Screening Options Available



ABSOLUTE MAXIMUM RATINGS ($T_C = 25^\circ\text{C}$ unless otherwise stated)

		BDX66	66A	66B	66C
V_{CEO}	Collector – Emitter Voltage	-60V	-80V	-100V	-120V
V_{CBO}	Collector – Base Voltage	-60V	-80V	-100V	-120V
V_{EBO}	Emitter – Base Voltage		-5V		
I_{CM}	Peak Collector Current		-20A		
I_B	Base Current		-0.25A		
P_D	Total Power Dissipation at $T_C = 25^\circ\text{C}$ De-rate Linearly Above 25°C		150W 0.855 W/ $^\circ\text{C}$		
T_J	Junction Temperature Range		-55 to $+200^\circ\text{C}$		
T_{stg}	Storage Temperature Range		-55 to $+200^\circ\text{C}$		

THERMAL PROPERTIES

Symbols	Parameters	Max.	Units
$R_{\theta JC}$	Thermal Resistance, Junction To Case	1.17	$^\circ\text{C/W}$

Semelab Limited 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.

PNP DARLINGTON SILICON POWER TRANSISTOR BDX 66, A, B, C

ELECTRICAL CHARACTERISTICS ($T_C = 25^\circ\text{C}$ unless otherwise stated)

Symbols	Parameters	Test Conditions		Min.	Typ.	Max.	Units	
$V_{(BR)CEO}^{(1)}$	Collector-Emitter Breakdown Voltage	$I_C = -100\text{mA}$		BDX66	-60		V	
				BDX66A	-80			
				BDX66B	-100			
				BDX66C	-120			
I_{CEO}	Collector Cut-Off Current	$V_{CE} = 0.5 \times V_{CEO(\text{max})}$	$I_B = 0$			-1.0	mA	
I_{CBO}	Collector-Base Cut-Off Current	$I_E = 0$ $V_{CB} = V_{CBO(\text{max})}$				-1.0		
		$I_E = 0$	$V_{CB} = -40\text{V}$	BDX66		-5		
			$V_{CB} = -50\text{V}$	BDX66A				
			$V_{CB} = -60\text{V}$	BDX66B				
			$V_{CB} = -70\text{V}$	BDX66C				
		$T_J = 200^\circ\text{C}$						
I_{EBO}	Emitter Cut-Off Current	$V_{EB} = -5\text{V}$	$I_C = 0$			-5		
$V_{CE(\text{sat})}^{(1)}$	Collector-Emitter Saturation Voltage	$I_C = -10\text{A}$		$I_B = -40\text{mA}$			-2	V
$V_{BE}^{(1)}$	Base-Emitter Voltage	$I_C = -10\text{A}$		$V_{CE} = -3\text{V}$			-2.5	
V_F	Diode Forward Voltage	$I_F = 10\text{A}$				2		
$h_{FE}^{(1)}$	Forward-current transfer ratio	$V_{CE} = -3\text{V}$		$I_C = -1.0\text{A}$		2000	-	
				$I_C = -10\text{A}$	1000			
				$I_C = -16\text{A}$		1000		

DYNAMIC CHARACTERISTICS

$ h_{fe} $	Magnitude of common emitter small-signal short-circuit forward current transfer ratio	$I_C = -5\text{A}$ $f = 1.0\text{MHz}$	$V_{CE} = -3\text{V}$			50		-
C_{obo}	Output Capacitance	$V_{CB} = -10\text{V}$ $f = 1.0\text{MHz}$	$I_E = 0$			300		pF
t_{on}	Turn-On Time	$I_C = -10\text{A}$	$V_{CC} = -12\text{V}$			1.0		μs
t_{off}	Turn-Off Time	$-I_{B1} = I_{B2} = 40\text{mA}$				3.5		

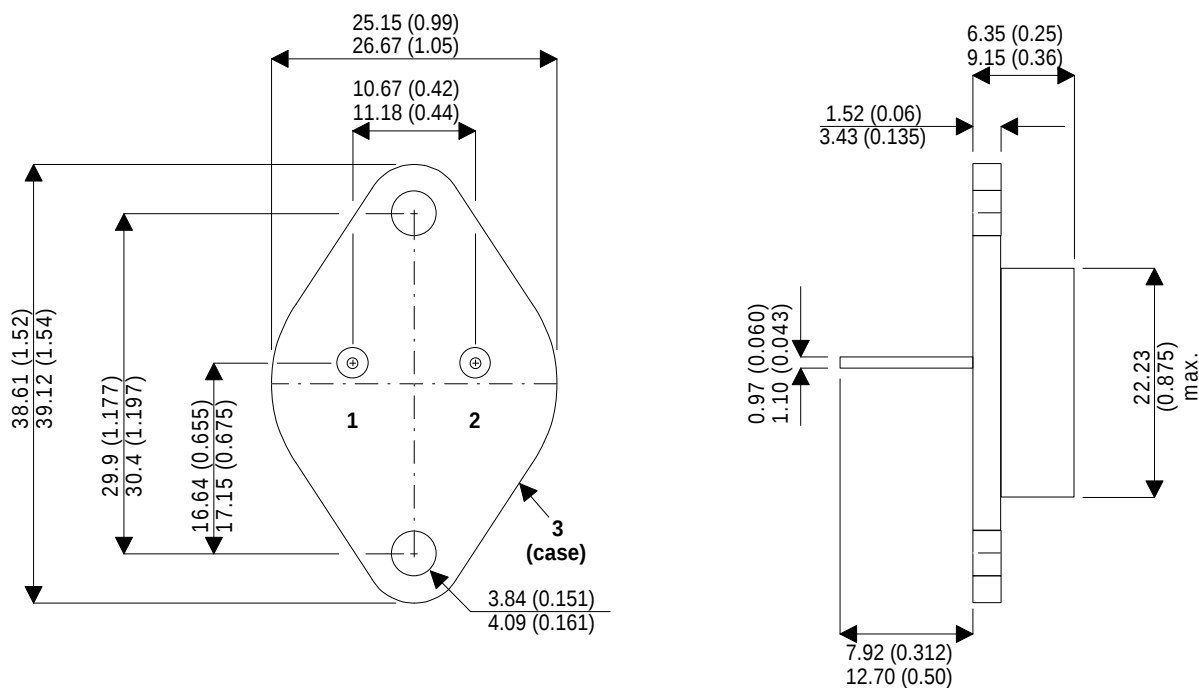
Notes

(1) Pulse Width $\leq 300\mu\text{s}$, $\delta \leq 2\%$

PNP DARLINGTON SILICON POWER TRANSISTOR BDX 66, A, B, C

MECHANICAL DATA

Dimensions in mm (inches)



TO-3 (TO-204AA)

Pin 1 – Base

Pin 2 – Emitter

Case – Collector