

SILICON PLANAR EPITAXIAL NPN TRANSISTOR

BDY71X

- High Power
- Hermetic TO-66 Metal Package
- Ideally suited for Switching and Amplifier Applications
- Screening Options Available



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

V_{CBO}	Collector – Base Voltage		90V
V_{CEO}	Collector – Emitter Voltage		55V
V_{CEX}	Collector – Emitter Voltage	$V_{BE} = -1.5\text{V}$	90V
V_{CER}	Collector – Emitter Voltage	$R_{BE} = 100\Omega$	60V
V_{EBO}	Emitter – Base Voltage		7V
I_C	Continuous Collector Current		4A
I_B	Base Current		2A
P_D	Total Power Dissipation at	$T_C = 25^\circ\text{C}$	29W
		Derate Above 25°C	$0.17\text{W}/^\circ\text{C}$
T_J	Junction Temperature Range		-65 to $+200^\circ\text{C}$
T_{stg}	Storage Temperature Range		-65 to $+200^\circ\text{C}$

THERMAL PROPERTIES

Symbols	Parameters	Max.	Units
$R_{\theta JC}$	Thermal Resistance, Junction To Case	6	$^\circ\text{C}/\text{W}$

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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} = 30V I _B = 0			0.5	mA
I _{CEX}	Collector Cut-Off Current	V _{CE} = 90V V _{BE} = -1.5V			1.0	
		V _{CE} = 30V V _{BE} = -1.5V t _{case} = 150°C			5.0	
I _{EBO}	Emitter Cut-Off Current	V _{EB} = 7V I _C = 0			1.0	
I _{CER}	Collector – Emitter Leakage Current	V _{CE} = 60V I _B = 0 R _{BE} = 100Ω			1.0	
V _{CEO}	Collector – Emitter Breakdown Voltage	I _C = 10mA I _B = 0	55			V
h _{FE} ⁽¹⁾	Forward-current transfer ratio	I _C = 0.5A V _{CE} = 4V	80		250	
V _{CE(sat)} ⁽¹⁾	Collector – Emitter Saturation Voltage	I _C = 0.5A I _B = 0.05A			1.0	V
V _{(BR)EB}	Emitter – Base Breakdown Voltage	I _E = 1.0mA I _C = 0	7.0			
V _{BE} ⁽¹⁾	Base – Emitter Voltage	V _{CE} = 4V I _C = 0.5A			1.7	

DYNAMIC CHARACTERISTICS

h _{fe}	Small signal forward-current transfer ratio	I _C = 0.2A f = 1.0MHz	V _{CE} = 10V	0.8			MHz
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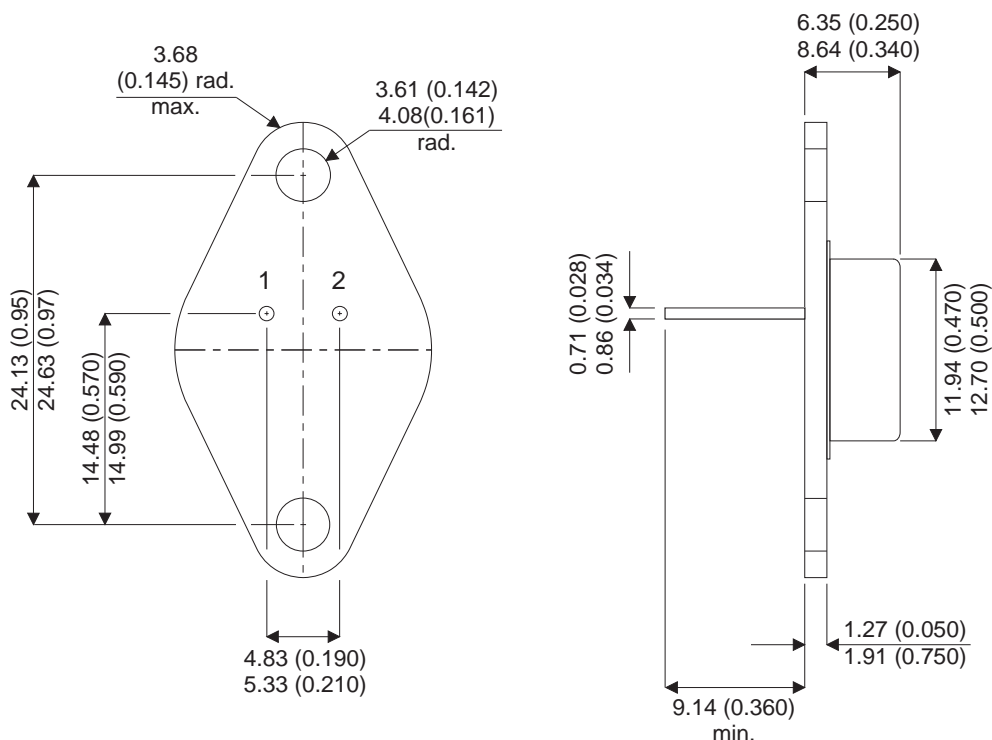
Notes

(1) Pulse Width ≤ 380us, δ ≤ 2%

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MECHANICAL DATA

Dimensions in mm (inches)



TO66 (TO-213AA)

Pin 1 - Base

Pin 2 - Emitter

Case - Collector