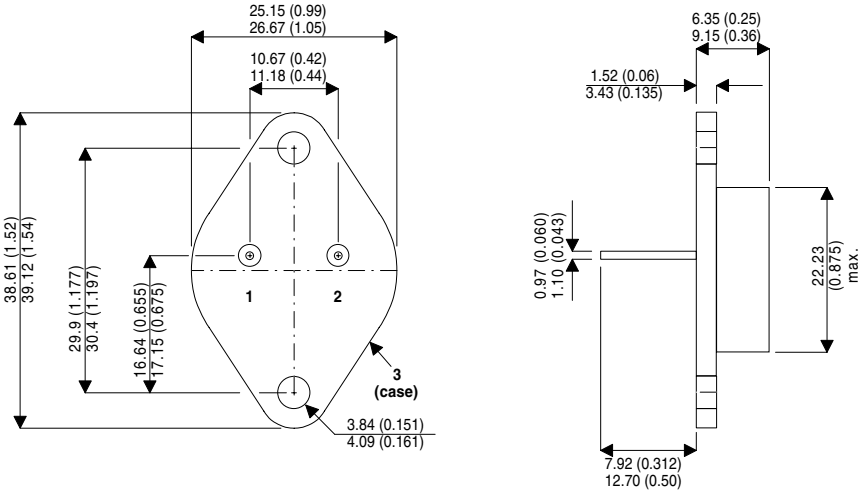
BDY90

MECHANICAL DATA
Dimensions in mm (inches)



NPN SILICON TRANSISTOR

FEATURES

- **$V_{(BR)CEO}$ = 100V (Min)**
- **Hermetically Sealed TO3 Metal Package**
- **Screening Options Available**

APPLICATIONS

- **Linear & Switching Applications**

TO3 (TO-204AA)

1 = Base 2 = Emitter Case = Collector

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

V_{CEO}	Collector - Emitter Voltage		100V
V_{CEV}	Collector - Emitter Voltage (V_{BE} = -1.5V)		120V
V_{CBO}	Collector - Base Voltage		120V
V_{EBO}	Emitter – Base Voltage		6V
I_C	Collector Current -	Continuous	10A
		Peak	15A
I_B	Base Current		2A
P_D	Power Dissipation at	T_C = 25°C	60W
		Derate Above 25°C	0.4W/°C
T_J	Junction Temperature		175°C
T_{stg}	Storage Temperature		-65 to +175°C

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THERMAL CHARACTERISTICS		Max	Unit
$R_{\theta JC}$	Thermal resistance junction to case	2.5	°C/W

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

	Parameter	Test Conditions		Min.	Typ.	Max.	Unit
$V_{(BR)CEO}$*	Collector-Emitter Breakdown Voltage	I_C = 10mA	I_B = 0	100			V
I_{CEV}	Collector-Emitter Cut-Off Current	V_{CE} = 120V	V_{BE} = -1.5V			1.0	mA
			T_C = 150°C			3	
I_{EBO}	Emitter-Base Cut-Off Current	I_C = 0	V_{EB} = 6V			1.0	
I_{CBO}	Collector-Base Cut-Off Current	I_E = 0	V_{CB} = 120V			1.0	
h_{FE}*	Forward-current transfer ratio	I_C = 1.0A	V_{CE} = 2V	30			
		I_C = 5.0A	V_{CE} = 5V	30		120	
		I_C = 10A	V_{CE} = 5V	20			
$V_{CE(sat)}$*	Collector-Emitter Saturation Voltage	I_C = 5A	I_B = 500mA			0.5	V
		I_C = 10A	I_B = 1.0A			1.5	
$V_{BE(sat)}$*	Base-Emitter Saturated Voltage	I_C = 5A	I_B = 500mA			1.2	
		I_C = 10A	I_B = 1.0A			1.5	

DYNAMIC CHARACTERISTICS

f_T	Transition Frequency	I_C = 500mA f = 10MHz	V_{CE} = 5V	20			MHz
C_{obo}	Output Capacitance	I_E = 0 f = 1.0MHz	V_{CB} = 10V			200	pF
t_{on}	Turn-On Time	V_{CC} = 30V I_C = 5A	I_{B1}= 0.5A			0.35	µs
t_s	Storage Time	V_{CC} = 30V				1.3	
t_f	Fall Time	I_C= 5A	I_{B1} = -I_{B2} = 0.5A			0.2	

* Pulse test t_p = 300µs, δ < 2%

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