



BD909 – BD911

SILICON POWER TRANSISTORS

The BD909 and DB911, are silicon epitaxial-base NPN power transistors in a TO-220 envelope. They are intended for use in power linear and switching applications. Compliance to RoHS.

ABSOLUTE MAXIMUM RATINGS

Symbol	Ratings		Value		Unit
			BD909	BD911	
V _{CBO}	Collector-Base Voltage	I _E = 0	80	100	V
V _{CEO}	Collector-Emitter Voltage	I _B = 0	80	100	V
V _{EBO}	Emitter-Base Voltage	I _C = 0	5		V
I _C	Collector Current		15		A
I _E	Emitter Current		15		A
I _B	Base Current		5		A
P _t	Power Dissipation		90		W
T _j	Junction Temperature	—	150		°C
T _{stg}	Storage Temperature range		-65 to 150		

Limiting values in accordance with the Absolute Maximum System (IEC 134)

THERMAL CHARACTERISTICS

Symbol	Ratings	Value	Unit
R_{thJ-mb}	From junction to mounting base	1.4	°C/W

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ELECTRICAL CHARACTERISTICS

TC=25°C unless otherwise noted

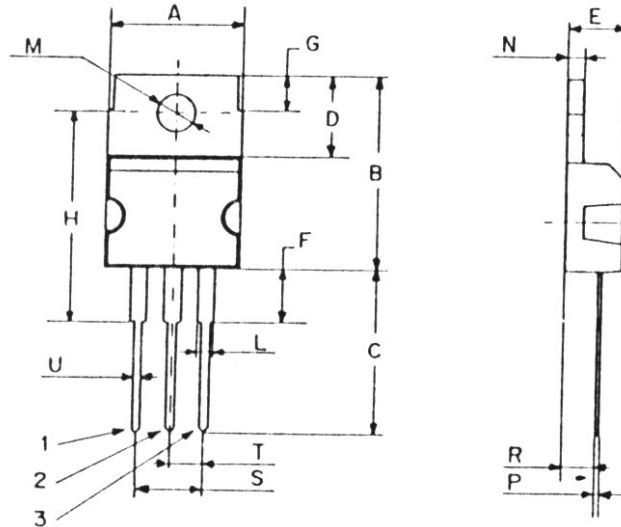
Symbol	Ratings	Test Condition(s)			Value			Unit	
					Min	Typ	Max		
I _{CBO}	Collector Cutoff Current	V _{CB} = 80 V	T _J = 25°C	BD909	-	-	0.5	mA	
		V _{CB} = 100 V		BD911					
		V _{CB} = 80 V	T _J = 150°C	BD909	-	-	5		
		V _{CB} = 100 V		BD911					
I _{CEO}	Collector Cutoff Current	V _{CE} = 40 V		BD909	-	-	1	mA	
		V _{CE} = 50 V		BD911					
I _{EBO}	Emitter Cutoff Current	V _{EB} = 5 V, I _C = 0			BD909	-	-	1	mA
					BD911				
V _{CE0sust}	Collector-Emitter Sustaining Voltage (*)	I _B = 0, I _C = 0.1 A			BD909	80	-	-	V
					BD911	100	-	-	
V _{CE(SAT)}	Collector-Emitter saturation Voltage (*)	I _C = 5 A, I _B = 500 mA			BD909	-	-	1	V
					BD911				
		I _C = 10 A, I _B = 2.5 A			BD909	-	-	3	
					BD911				
V _{BE(SAT)}	Base-Emitter Saturation Voltage (*)	I _C = 10 A, I _B = 2.5 A			BD909	-	-	2.5	V
					BD911				
V _{BE}	Base-Emitter Voltage (*)	I _C = 5A, V _{CE} = 4 V			BD909	-	-	1.5	V
					BD911				
h _{FE}	DC Current Gain (*)	I _C = 0.5A, V _{CE} = 4 V			BD909	40	-	250	-
					BD911				
h _{FE}	DC Current Gain (*)	I _C = 5A, V _{CE} = 4 V			BD909	15	-	150	
					BD911				
h _{FE}	DC Current Gain (*)	I _C = 10A, V _{CE} = 4 V			BD909	5	-	-	
					BD911				
f _T	Transition Frequency	I _C = 0.5A, V _{CE} = 4 V			BD909	3	-	-	MHz
					BD911				

(*) Pulse Width $\approx 300\text{ }\mu\text{s}$, Duty Cycle $\angle 1.5\%$

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MECHANICAL DATA CASE TO-220

DIMENSIONS (mm)		
	Min.	Max.
A	9,90	10,30
B	15,65	15,90
C	13,20	13,40
D	6,45	6,65
E	4,30	4,50
F	2,70	3,15
G	2,60	3,00
H	15,75	17,15
L	1,15	1,40
M	3,50	3,70
N	-	1,37
P	0,46	0,55
R	2,50	2,70
S	4,98	5,08
T	2.49	2.54
U	0,70	0,90



Pin 1 :	Base
Pin 2 :	Collector
Pin 3 :	Emitter
Package	Collector

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