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
$R_{thJ\text{-}mb}$	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 ≈ 300 μs, Duty Cycle ∠ 1.5%

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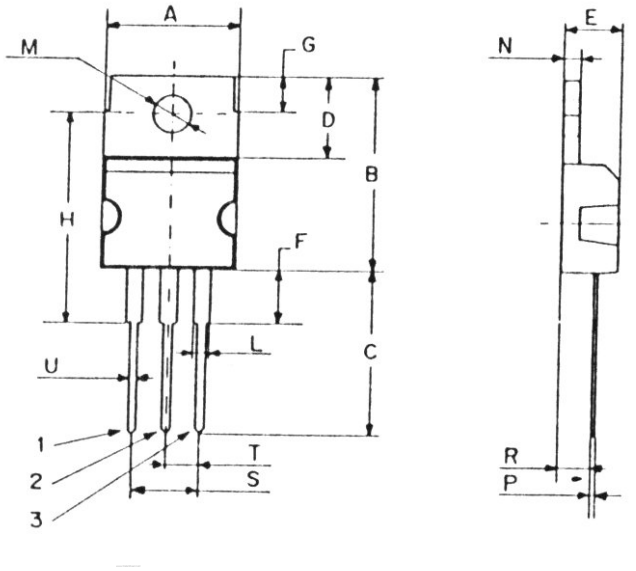
MECHANICAL DATA CASE TO-220

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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