

/ Descriptions

Silicon NPN transistor in a TO-220 Plastic Package.

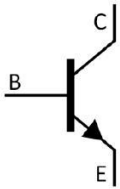
/ Features

High V_{CEO} , larger I_C , complement to BD912.

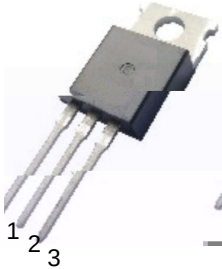
/ Applications

Use in power linear and switching applications.

/ Equivalent Circuit



/ Pinning



PIN1 Base PIN 2 Collector PIN 3 Emitter

/ h_{FE} Classifications & Marking

See Marking Instructions.

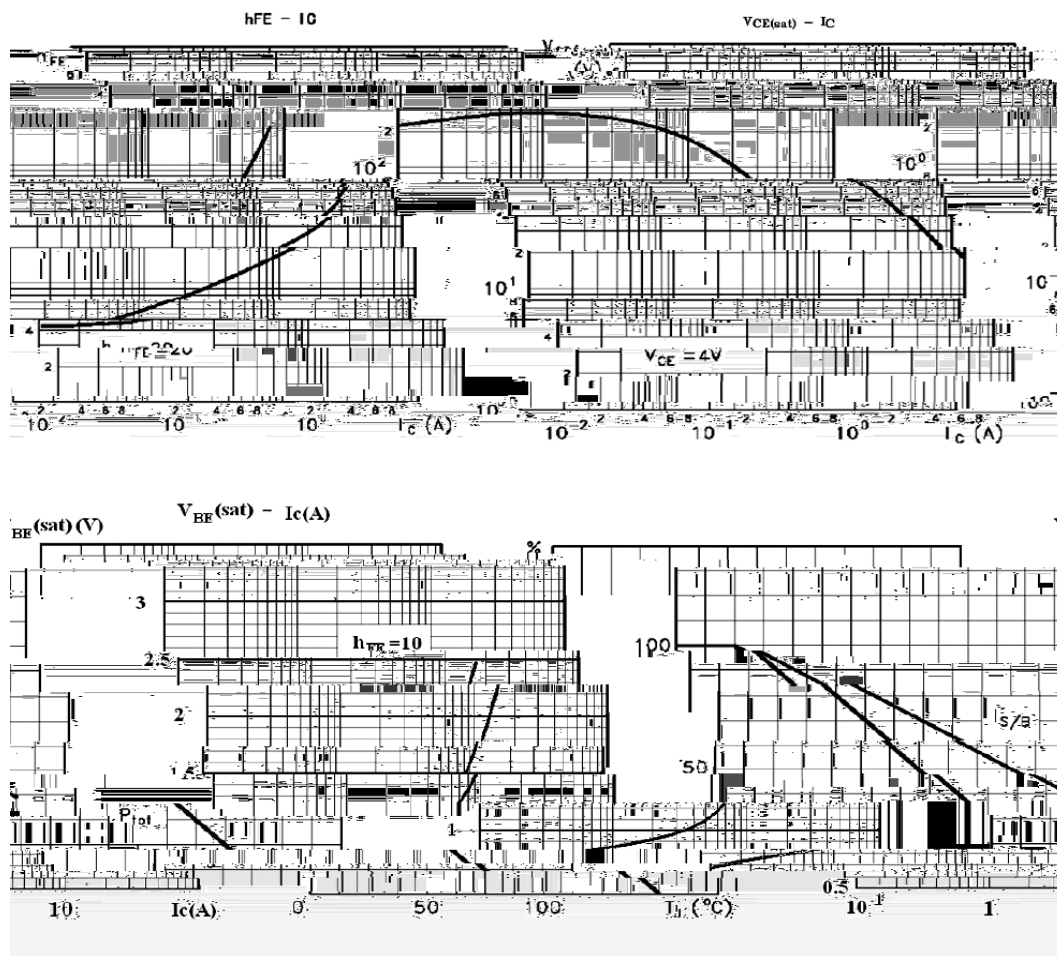
/ Absolute Maximum Ratings(Ta=25)

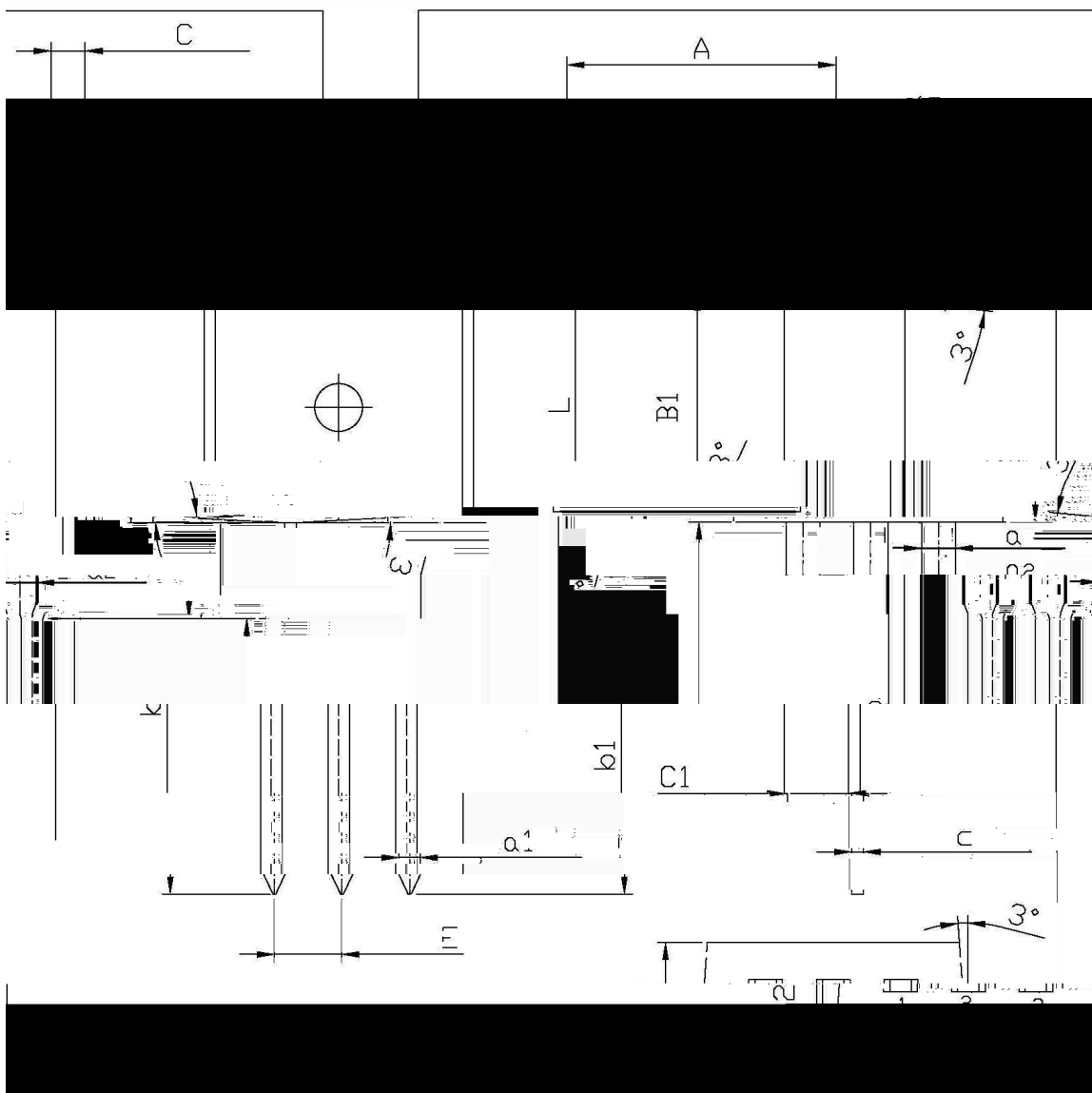
Parameter	Symbol	Rating	Unit
Collector to Base Voltage	V_{CBO}	100	V
Collector to Emitter Voltage	V_{CEO}	100	V
Emitter to Base Voltage	V_{EBO}	5.0	V
Collector Current - Continuous	I_C	15	A
Base Current – Continuous	I_B	5.0	A
Collector Power Dissipation	$P_C(T_C=25)$	90	W
Junction Temperature	T_J	150	
Storage Temperature Range	T_{stg}	-55 150	

/ Electrical Characteristics(Ta=25)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector to Emitter Breakdown Voltage	V_{CEO}	$I_C=1.0mA$ $I_B=0$	100			V
Collector Cut-Off Current	$I_{CBO(1)}$	$V_{CB}=100V$ $I_E=0$			0.5	mA
	$I_{CBO(2)}$	$V_{CB}=100V$ $I_E=0$ $T_C=150$			5.0	mA
Collector Cut-Off Current	I_{CEO}	$V_{CE}=50V$ $I_B=0$			1.0	mA
Emitter Cut-Off Current	I_{EBO}	$V_{EB}=5.0V$ $I_C=0$			1.0	mA
DC Current Gain	$h_{FE(1)}$	$V_{CE}=4.0V$ $I_C=0.5A$	40		250	
	$h_{FE(2)}$	$V_{CE}=4.0V$ $I_C=5.0A$	15		150	
	$h_{FE(3)}$	$V_{CE}=4.0V$ $I_C=10A$	5			
Collector to Emitter Saturation Voltage	$V_{CE(sat)(1)}$	$I_C=5.0A$ $I_B=0.5A$			1.0	V
	$V_{CE(sat)(2)}$	$I_C=10A$ $I_B=2.5A$			3.0	V
Base to Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=10A$ $I_B=2.5A$			2.5	V
Base to Emitter Voltage	V_{BE}	$V_{CE}=4.0V$ $I_C=5.0A$			1.5	V
Transition Frequency	f_T	$V_{CE}=4.0V$ $I_C=0.5A$	3.0			MHz

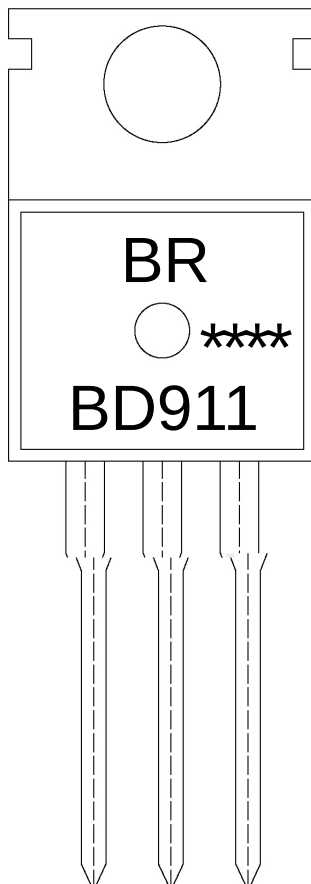
/ Electrical Characteristic Curve





Symbol	Dimensions in millimeters		Symbol	Dimensions in millimeters	
	Min	Max		Min	Max
	4.3	9.8		1.2	1.4
	2.5	0.1		6.3	6.7
	9.0	9.4		15.7	16.3

/ Marking Instructions



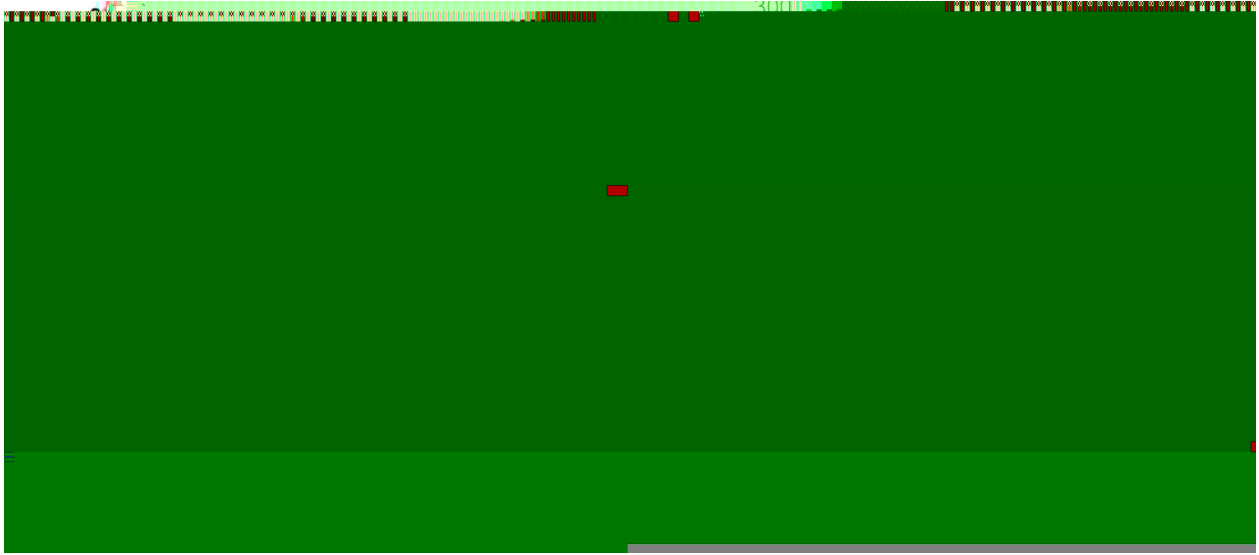
Note:

BR: Company Code

BD911: Product Type.

****: Lot No. Code, code change with Lot No.

() / Temperature Profile for Dip Soldering(Pb-Free)



Note:

- | | | | | | |
|---|-----|-----|----|----------|---|
| 1 | 25 | 150 | 60 | 90sec; | 1.Preheating:25~150 , Time:60~90sec. |
| 2 | 255 | 5 | 5 | 0.5sec; | 2.Peak Temp.:255 5 , Duration:5 0.5sec. |
| 3 | | | 2 | 10 /sec. | 3. Cooling Speed: 2~10 /sec. |

/ Resistance to Soldering Heat Test Conditions

270 5 10 1 sec. Temp.:270±5 Time:10±1 sec

/ Packaging SPEC.

/ BULK

Package Type	Units					Dimension (unit mm ³)		
	Units/Bag /	Bags/Inner Box /	Units/Inner Box /	Inner Boxes/Outer Box /	Units/Outer Box /	Bag	Inner Box	Outer Box
TO-220/F	200	10	2,000	5	10,000	135×190	237×172×102	560×245×195

/ TUBE

Package Type	Units					Dimension (unit mm ³)		
	Units/Tube /	Tubes/Inner Box /	Units/Inner Box /	Inner Boxes/Outer Box /	Units/Outer Box /	Tube	Inner Box	Outer Box
TO-220/F	50	20	1,000	5	5,000	532×31.4×5.5	555×164×50	575×290×180

/ Notices