

Inchange Semiconductor

Product Specification

Silicon NPN Power Transistors

BD909 BD911

DESCRIPTION

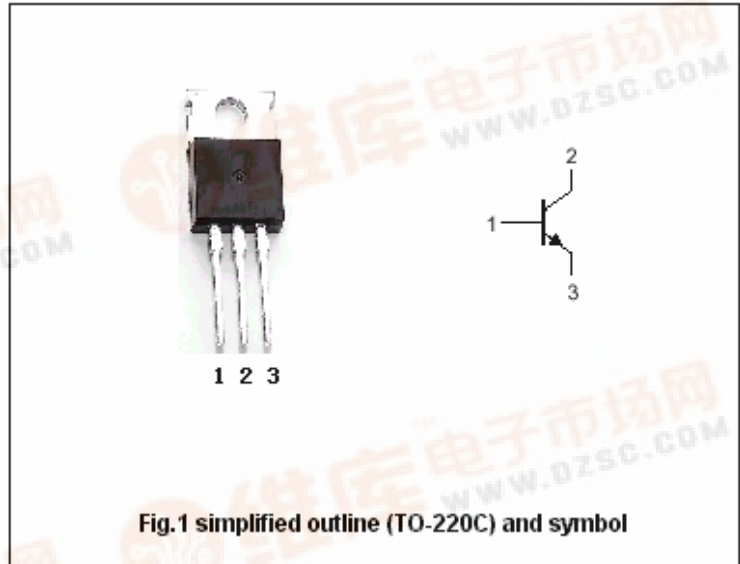
- With TO-220C package
- Complement to type BD910 BD912

APPLICATIONS

- Intended for use in power linear and switching applications

PINNING

PIN	DESCRIPTION
1	Base
2	Collector;connected to mounting base
3	Emitter



Absolute maximum ratings (Ta=25 °C)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V _{CBO}	Collector-base voltage	BD909	80	V
		BD911	100	
V _{CEO}	Collector-emitter voltage	BD909	80	V
		BD911	100	
V _{EBO}	Emitter-base voltage	Open collector	5	V
I _C	Collector current		15	A
I _B	Base current		5	A
P _C	Collector power dissipation	T _C ≤ 25	90	W
T _j	Junction temperature		150	
T _{stg}	Storage temperature		-65~150	

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
R _{th j-c}	Thermal resistance junction to case	1.4	/W

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CHARACTERISTICS

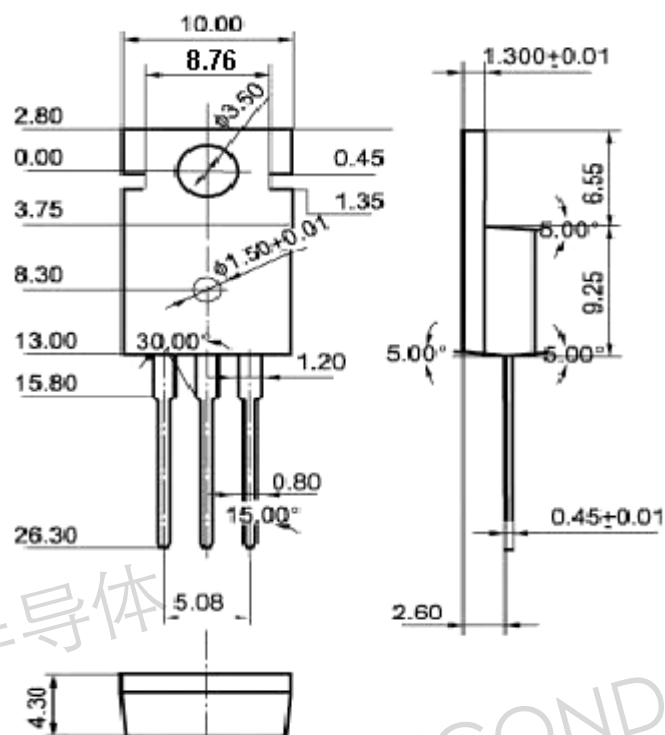
T_j=25 unless otherwise specified

SYMBOL	PARAMETER		CONDITIONS	MIN	TYP.	MAX	UNIT
V _{CEQ(SUS)}	Collector-emitter sustaining voltage	BD909	I _C =0.1A; I _B =0	80			V
		BD911		100			
V _{CEsat-1}	Collector-emitter saturation voltage		I _C =5 A; I _B =0.5 A			1.0	V
V _{CEsat-2}	Collector-emitter saturation voltage		I _C =10A; I _B =2.5 A			3.0	V
V _{BEsat}	Base-emitter saturation voltage		I _C =10A; I _B =2.5 A			2.5	V
V _{BE}	Base-emitter voltage		I _C =5A ; V _{CE} =4V			1.5	V
I _{CBO}	Collector cut-off current	BD909	V _{CB} =80V; I _E =0 T _C =150			0.5 5	mA
		BD911	V _{CB} =100V; I _E =0 T _C =150			0.5 5	
I _{CEO}	Collector cut-off current	BD909	V _{CE} =40V; I _B =0			1	mA
		BD911	V _{CE} =50V; I _B =0				
I _{EBO}	Emitter cut-off current		V _{EB} =5V; I _C =0			1	mA
h _{FE-1}	DC current gain		I _C =0.5A ; V _{CE} =4V	40		250	
h _{FE-2}	DC current gain		I _C =5A ; V _{CE} =4V	15		150	
h _{FE-3}	DC current gain		I _C =10A ; V _{CE} =4V	5			
f _T	Transition frequency		I _C =0.5A ; V _{CE} =4V	3			MHz

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PACKAGE OUTLINE

Fig.2 Outline dimensions (unindicated tolerance: ± 0.10 mm)

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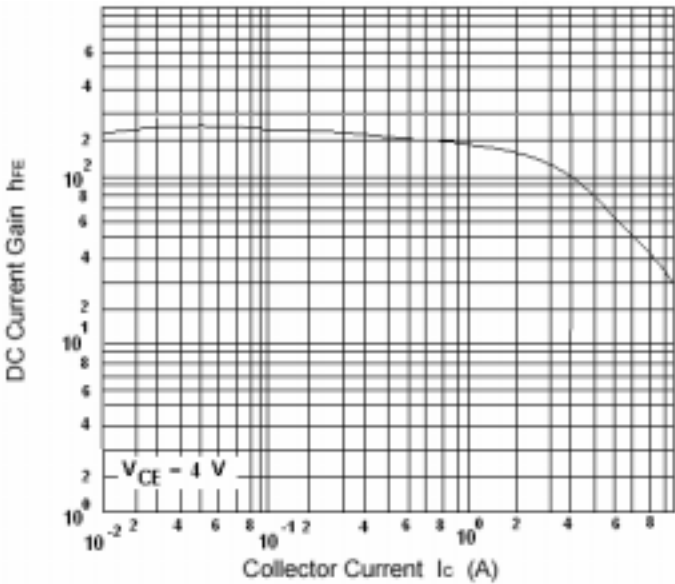


Fig.3 DC current Gain

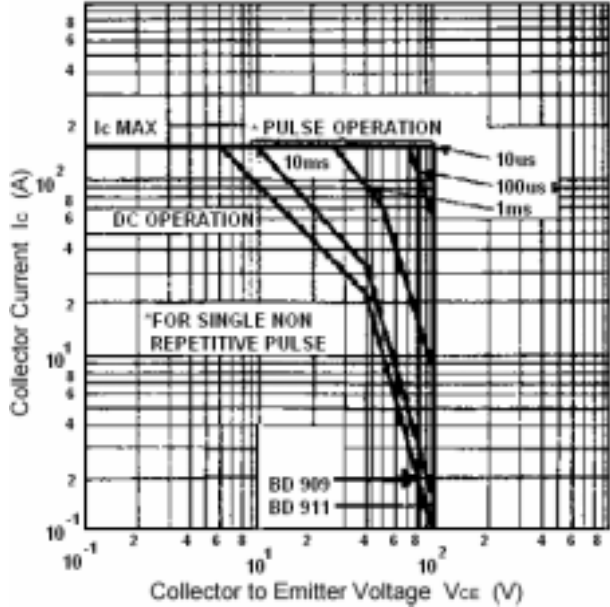


Fig.4 Safe Operating Area

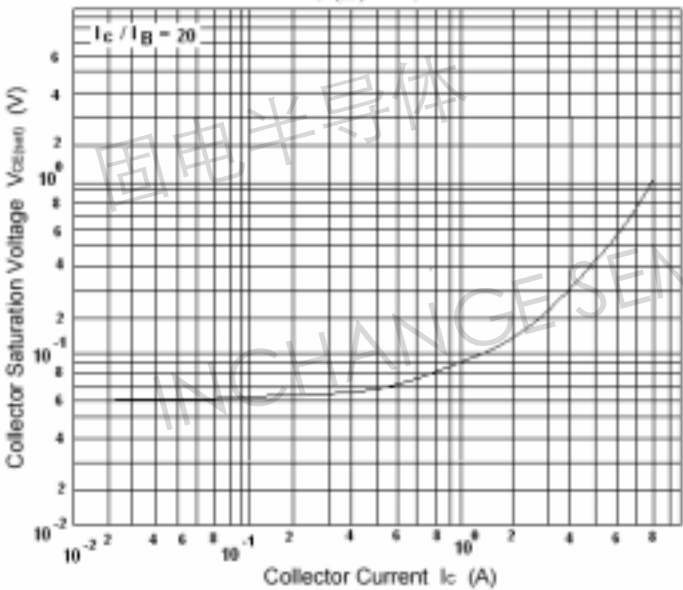


Fig.5 Collector-Emitter Saturation Voltage