

Silicon NPN Power Transistors

BD909 BD911

DESCRIPTION

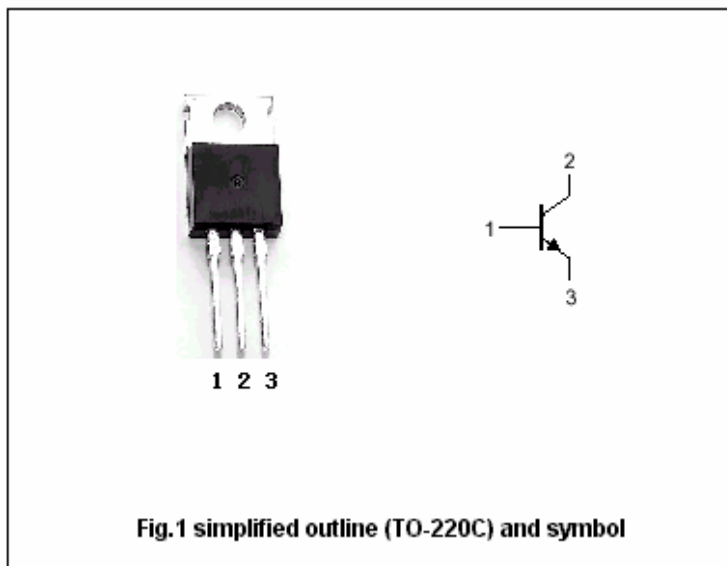
- With TO-220C package
- Complement to type BD910 BD912

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℃)

SYMBOL	PARAMETER		CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	BD909	Open emitter	80	V
		BD911		100	
V_{CEO}	Collector-emitter voltage	BD909	Open base	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		$T_C \leq 25^\circ\text{C}$	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°C unless otherwise specified

SYMBOL	PARAMETER		CONDITIONS	MIN	TYP.	MAX	UNIT
V _{CE0(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°C			0.5 5	mA
		BD911	V _{CB} =100V; I _E =0 T _C =150°C			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

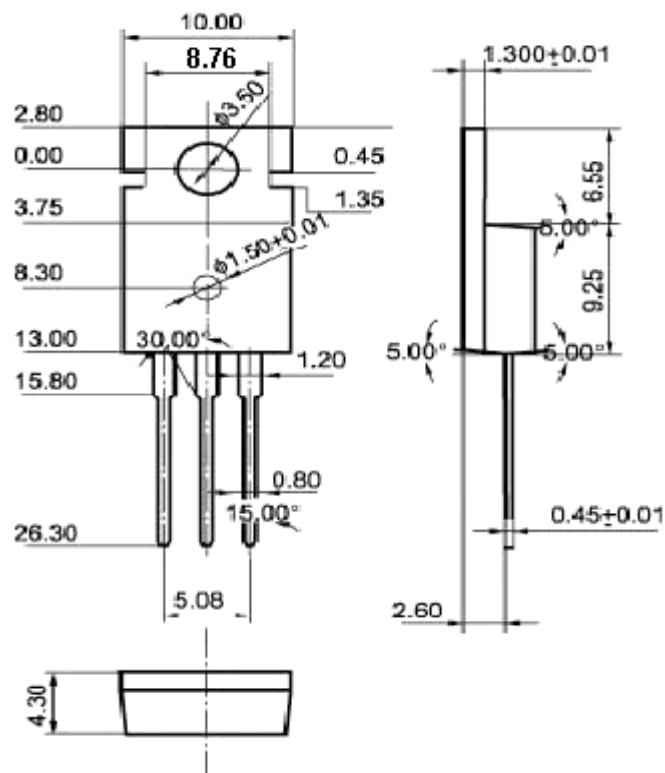


Fig.2 Outline dimensions (unindicated tolerance:±0.10 mm)

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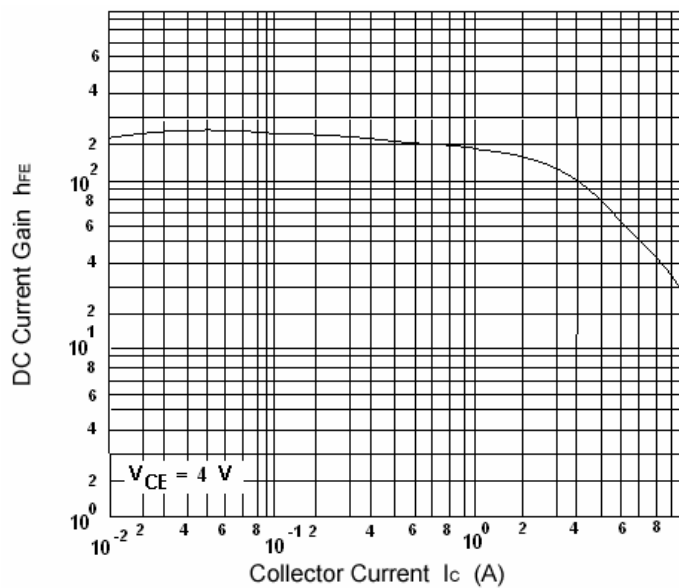


Fig.3 DC current Gain

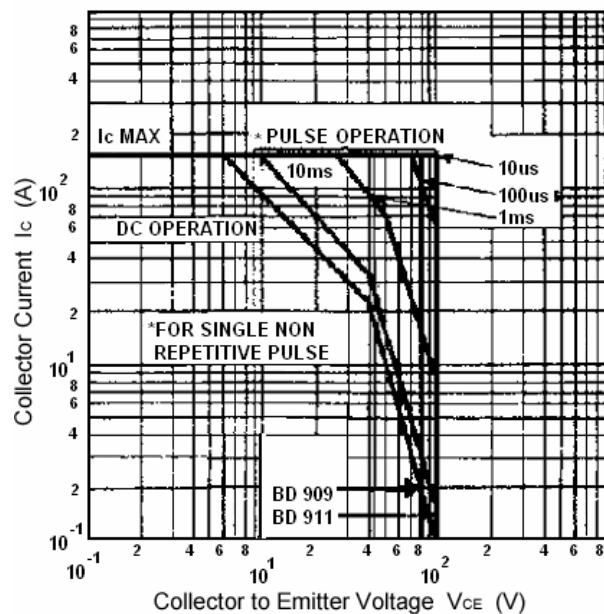


Fig.4 Safe Operating Area

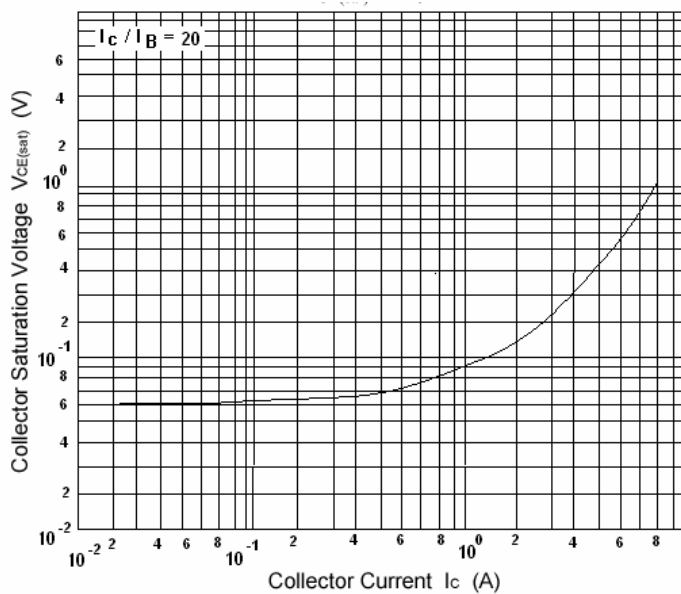


Fig.5 Collector-Emitter Saturation Voltage