Silicon NPN Power Transistors BD909 BD911

DESCRIPTION

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

APPLICATIONS

·Intented for use in power linear and switching applications

PINNING

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

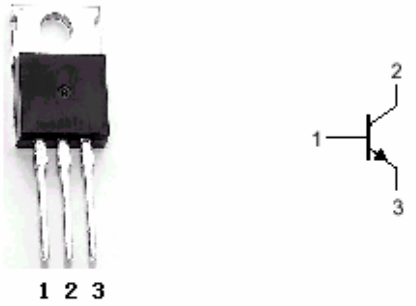

Fig.1 simplified outline (TO-220C) and symbol

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≤25□	90	W
T_j	Junction temperature			150	□
T_{stg}	Storage temperature			-65~150	□

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j\text{-}c}$	Thermal resistance junction to case	1.4	□/W

CHARACTERISTICS

Tj=25□ unless otherwise specified

SYMBOL	PARAMETER		CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CEO(SUS)}$	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

PACKAGE OUTLINE

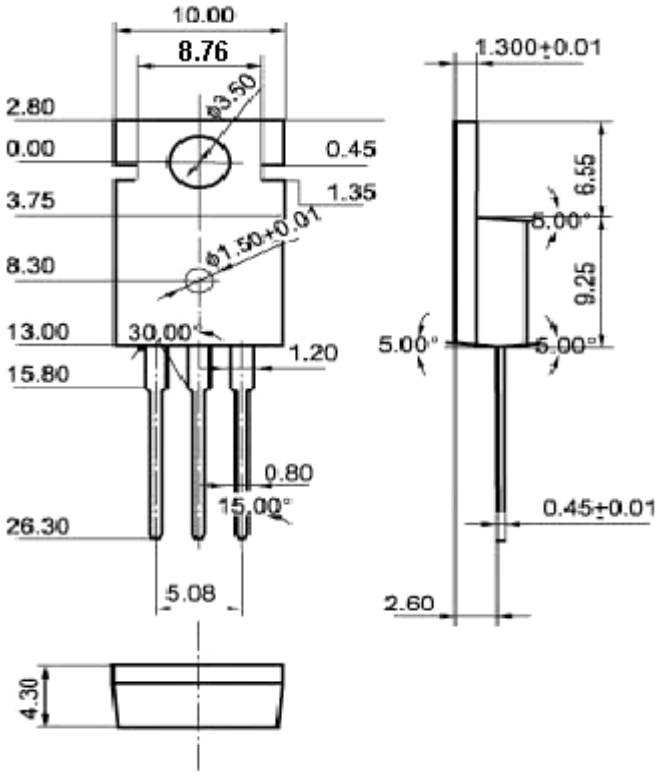

Fig.2 Outline dimensions (unindicated tolerance:±0.10 mm)

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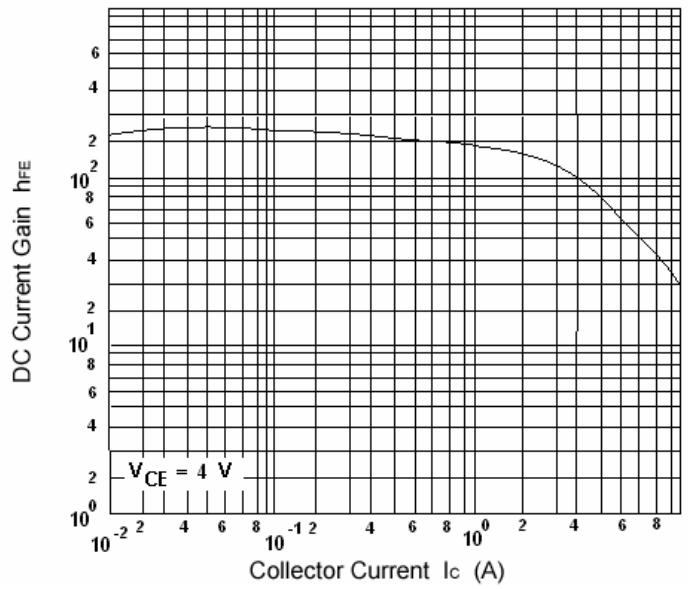

Fig.3 DC current Gain

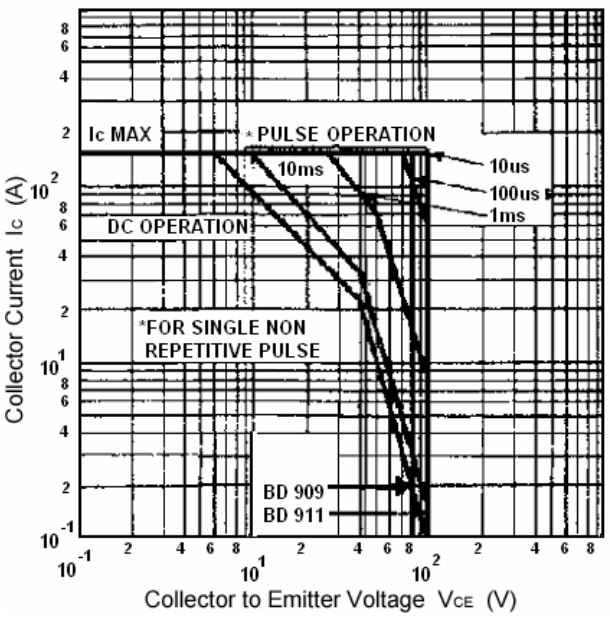

Fig.4 Safe Operating Area

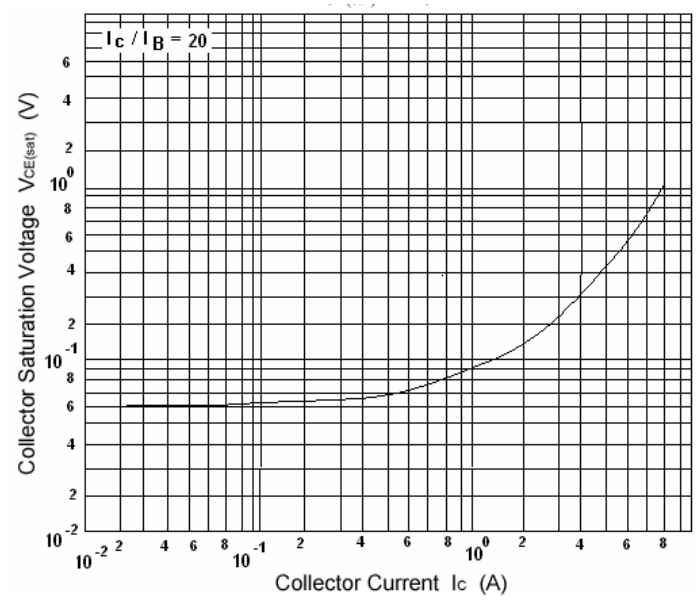

Fig.5 Collector-Emitter Saturation Voltage