

**Silicon PNP Power Transistors**

**BD910 BD912**

**DESCRIPTION**

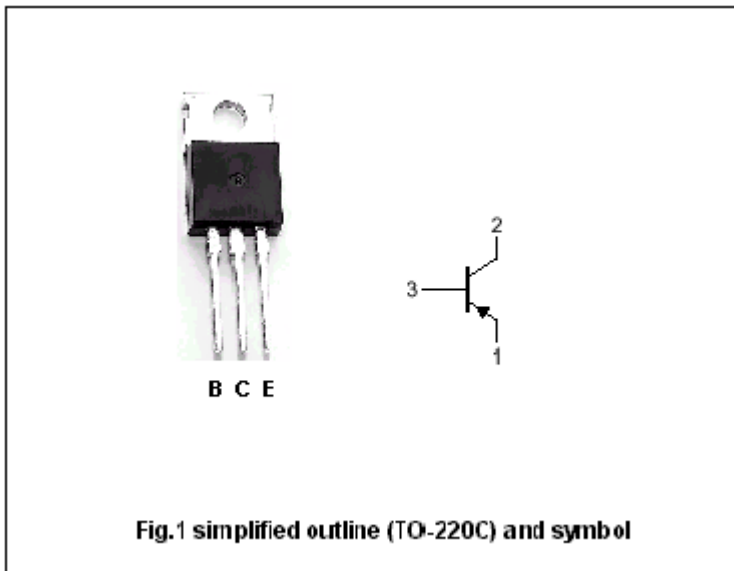
- With TO-220C package
- Complement to type BD909 BD911

**APPLICATIONS**

- Intended for use in power linear and switching applications

**PINNING**

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



**Absolute maximum ratings (Ta=25 )**

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V <sub>CBO</sub>	Collector-base voltage	BD910	-80	V
		BD912	-100	
V <sub>CEO</sub>	Collector-emitter voltage	BD910	-80	V
		BD912	-100	
V <sub>EBO</sub>	Emitter-base voltage	Open collector	-5	V
I <sub>C</sub>	Collector current		-15	A
I <sub>B</sub>	Base current		-5	A
P <sub>C</sub>	Collector power dissipation	T <sub>C</sub> 25	90	W
T <sub>j</sub>	Junction temperature		150	
T <sub>stg</sub>	Storage temperature		-65~150	

**THERMAL CHARACTERISTICS**

SYMBOL	PARAMETER	MAX	UNIT
R <sub>th j-c</sub>	Thermal resistance junction to case	1.4	/W

## Silicon PNP Power Transistors

## BD910 BD912

## CHARACTERISTICS

T<sub>j</sub>=25 unless otherwise specified

SYMBOL	PARAMETER		CONDITIONS	MIN	TYP.	MAX	UNIT
V <sub>CEO(SUS)</sub>	Collector-emitter sustaining voltage	BD910	I <sub>C</sub> =-0.1A; I <sub>B</sub> =0	-80			V
		BD912		-100			
V <sub>CEsat-1</sub>	Collector-emitter saturation voltage		I <sub>C</sub> =-5 A; I <sub>B</sub> =-0.5 A			-1.0	V
V <sub>CEsat-2</sub>	Collector-emitter saturation voltage		I <sub>C</sub> =-10A; I <sub>B</sub> =-2.5 A			-3.0	V
V <sub>BEsat</sub>	Base-emitter saturation voltage		I <sub>C</sub> =-10A; I <sub>B</sub> =-2.5 A			-2.5	V
V <sub>BE</sub>	Base-emitter voltage		I <sub>C</sub> =-5A ; V <sub>CE</sub> =-4V			-1.5	V
I <sub>CBO</sub>	Collector cut-off current	BD910	V <sub>CB</sub> =-80V; I <sub>E</sub> =0 T <sub>C</sub> =25			-0.5 -5.0	mA
		BD912	V <sub>CB</sub> =-100V; I <sub>E</sub> =0 T <sub>C</sub> =25			-0.5 -5.0	
I <sub>CEO</sub>	Collector cut-off current	BD910	V <sub>CE</sub> =-40V; I <sub>B</sub> =0			-1.0	mA
		BD912	V <sub>CE</sub> =-50V; I <sub>B</sub> =0				
I <sub>EBO</sub>	Emitter cut-off current		V <sub>EB</sub> =-5V; I <sub>C</sub> =0			-1.0	mA
h <sub>FE-1</sub>	DC current gain		I <sub>C</sub> =-0.5A ; V <sub>CE</sub> =-4V	40		250	
h <sub>FE-2</sub>	DC current gain		I <sub>C</sub> =-5A ; V <sub>CE</sub> =-4V	15		150	
h <sub>FE-3</sub>	DC current gain		I <sub>C</sub> =-10A ; V <sub>CE</sub> =-4V	5			
f <sub>T</sub>	Transition frequency		I <sub>C</sub> =-0.5A ; V <sub>CE</sub> =-4V	3			MHz



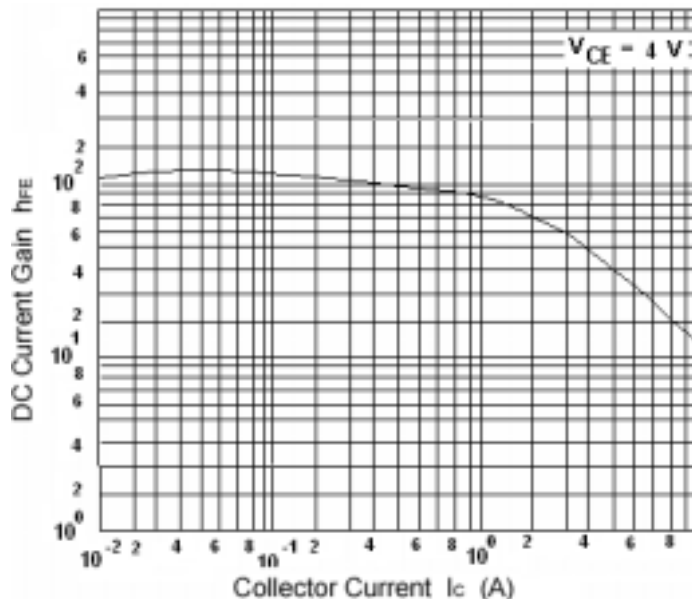


Fig.3  $h_{FE} - I_C$

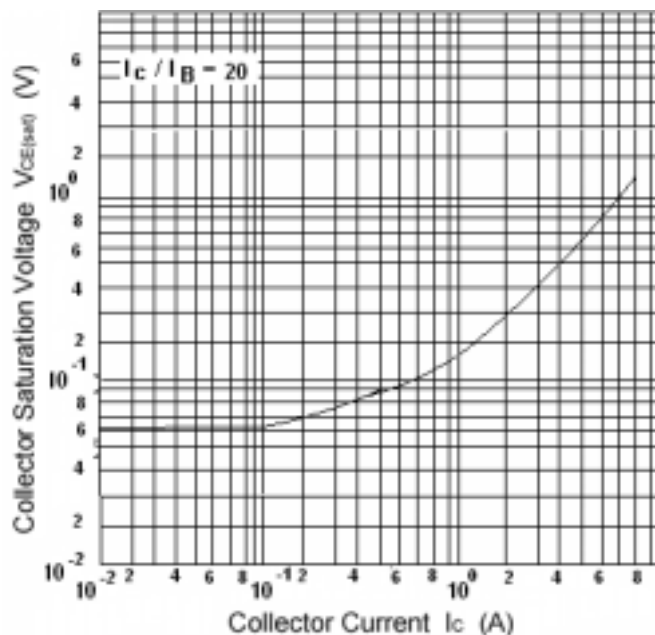


Fig.4  $V_{CE(sat)} - I_C$

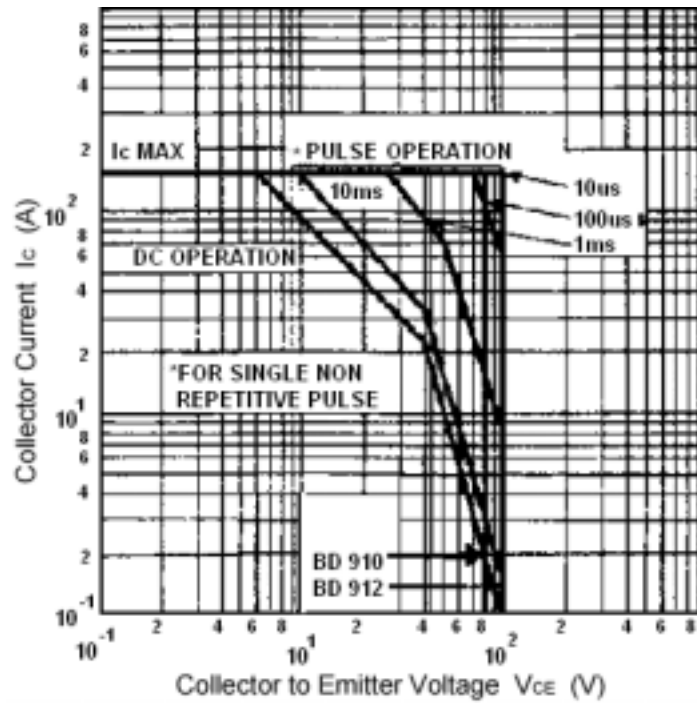


Fig.5 SAFE OPERATING AREA