Silicon NPN Power Transistors BD707 BD709 BD711

DESCRIPTION

·With TO-220C package

·The BD707 and BD711are respectively complement to type BD708 and BD712

APPLICATIONS

·Intented for use in power linear and switching applications.

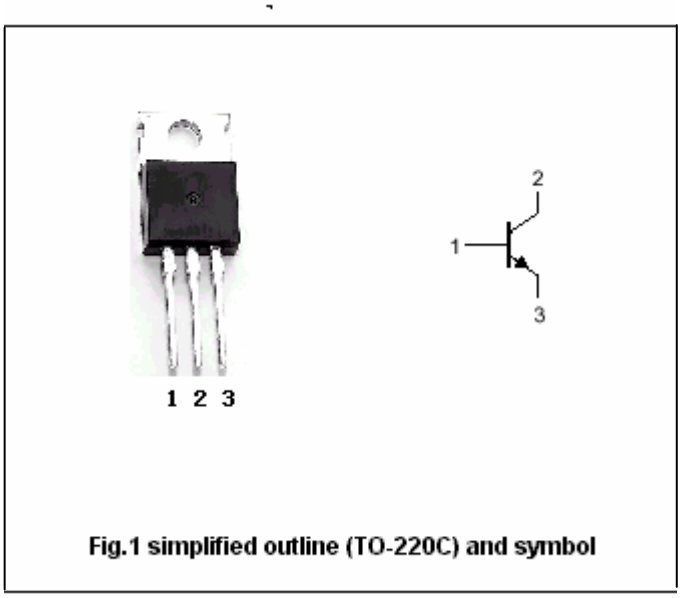

Fig.1 simplified outline (TO-220C) and symbol

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	BD707	Open emitter	60	V
		BD709		80	
		BD711		100	
V_{CEO}	Collector-emitter voltage	BD707	Open base	60	
		BD709		80	
		BD711		100	
V_{EBO}	Emitter-base voltage		Open collector	5	V
I_C	Collector current-DC			12	A
I_{CM}	Collector current-Pulse			18	A
I_B	Base current			5	A
P_T	Total dissipation		T_C=25□	75	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	1.67	□/W

CHARACTERISTICS

Tj=25□ unless otherwise specified

SYMBOL	PARAMETER		CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CEO(SUS)}$	Collector-emitter sustaining voltage	BD707	I_C=0.1A, I_B=0	60			V
		BD709		80			
		BD711		100			
V_{CEsat}	Collector-emitter saturation voltage		I_C=4A ,I_B=0.4A			1.0	V
V_{BE}	Base-emitter voltage		I_C=4A , V_{CE}=4V			1.5	V
I_{CBO}	Collector cut-off current	BD707	V_{CB}=60V, I_E=0 T_C=150□			0.1 1.0	mA
		BD709	V_{CB}=80V, I_E=0 T_C=150□			0.1 1.0	
		BD711	V_{CB}=100V, I_E=0 T_C=150□			0.1 1.0	
I_{CEO}	Collector cut-off current	BD707	V_{CE}=30V, I_B=0			0.1	mA
		BD709	V_{CE}=40V, I_B=0				
		BD711	V_{CE}=50V, I_B=0				
I_{EBO}	Emitter cut-off current		V_{EB}=5V; I_C=0			1.0	mA
h_{FE-1}	DC current gain		I_C=0.5A ; V_{CE}=2V	40	120	400	
h_{FE-2}	DC current gain only for **BD707/709**		I_C=2A ; V_{CE}=2V	30			
h_{FE-3}	DC current gain		I_C=4A ; V_{CE}=2V	15		150	
h_{FE-4}	DC current gain	BD707	I_C=10A ; V_{CE}=4V	5	10		
		BD709			8		
		BD711			8		
f_T	Transition frequency		I_C=0.3A;V_{CE}=3V;	3			MHz

PACKAGE OUTLINE

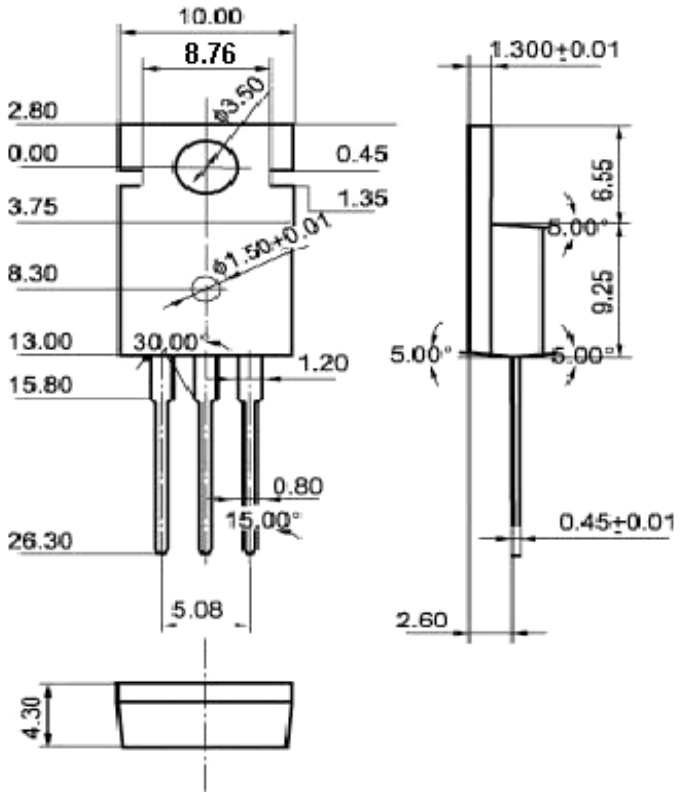

Fig.2 Outline dimensions