

Silicon NPN Power Transistors

BD707 BD709 BD711

DESCRIPTION

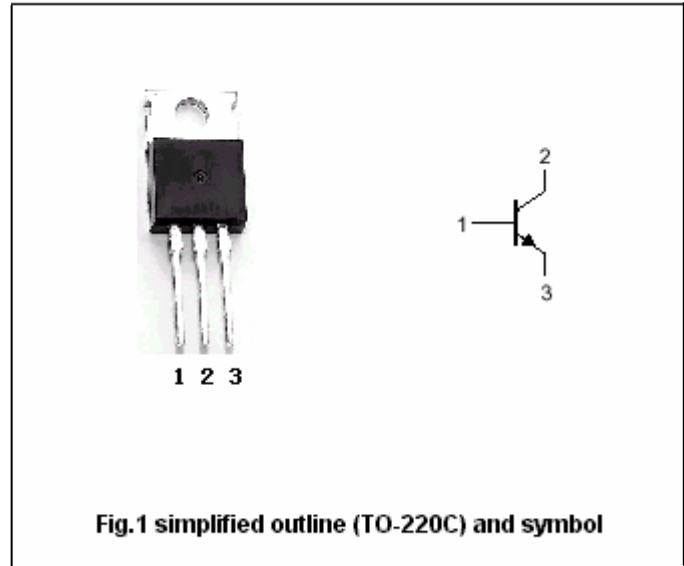
- With TO-220C package
- The BD707 and BD711 are respectively complement to type BD708 and BD712

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($T_a=25^\circ\text{C}$)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	BD707	60	V
		BD709	80	
		BD711	100	
V_{CEO}	Collector-emitter voltage	BD707	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	$T_C=25^\circ\text{C}$	75	W
T_j	Junction temperature		150	$^\circ\text{C}$
T_{stg}	Storage temperature		-65~150	$^\circ\text{C}$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal resistance junction to case	1.67	$^\circ\text{C}/\text{W}$

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CHARACTERISTICS

T_j=25°C 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°C			0.1 1.0	mA
		BD709	V _{CB} =80V, I _E =0 T _C =150°C			0.1 1.0	
		BD711	V _{CB} =100V, I _E =0 T _C =150°C			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

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PACKAGE OUTLINE

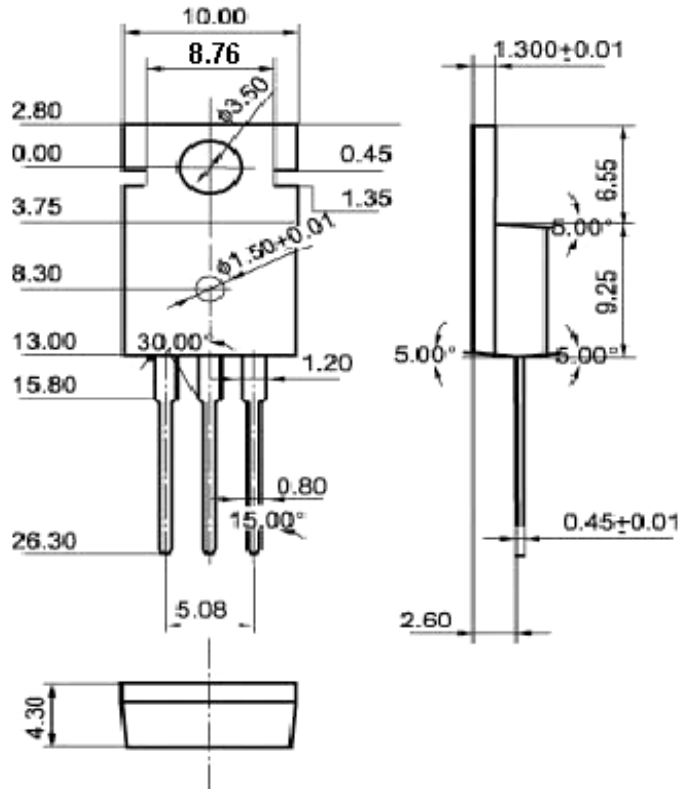


Fig.2 Outline dimensions