

Silicon PNP Power Transistor

BD202/204

DESCRIPTION

- Collector-Emitter Breakdown Voltage-
: $V_{(BR)CEO} = -45V(\text{Min})$ - BD202
-60V(Min)- BD204
- Complement to Type BD201/203

APPLICATIONS

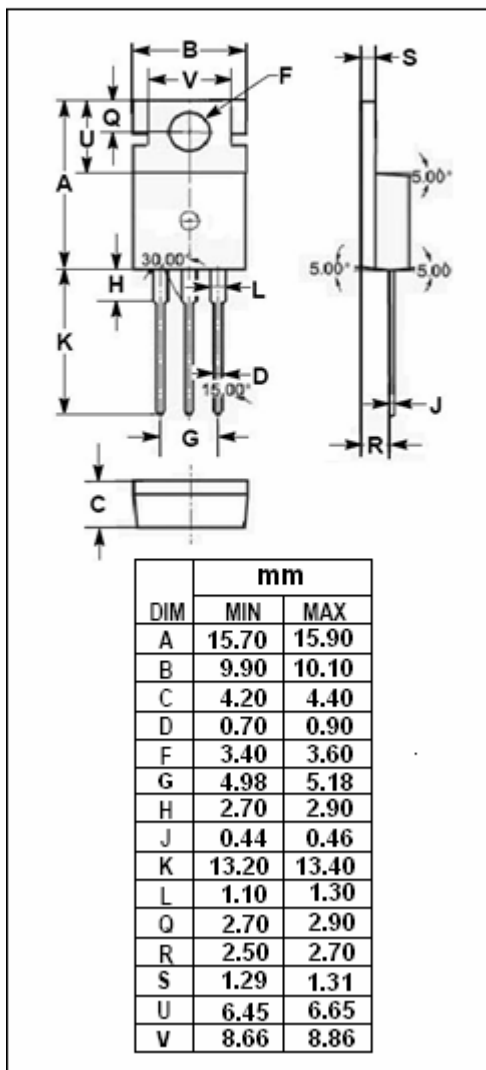
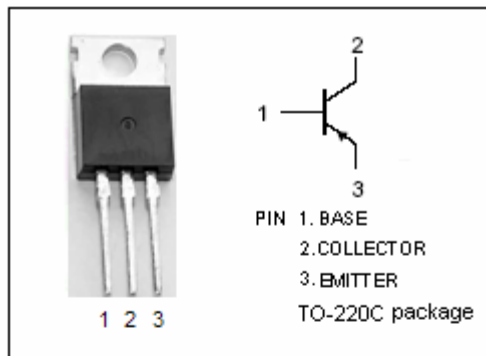
- Designed for use in hi-fi equipment delivering an output of 15 to 15 W into a 4 or 8 load.

ABSOLUTE MAXIMUM RATINGS($T_a=25$)

SYMBOL	PARAMETER	VALUE	UNIT	
V_{CBO}	Collector-Base Voltage	BD202	-60	V
		BD204	-60	
V_{CEO}	Collector-Emitter Voltage	BD202	-45	V
		BD204	-60	
V_{EBO}	Emitter-Base Voltage	-5	V	
I_C	Collector Current-Continuous	-8	A	
I_{CM}	Collector Current-Peak t_p 10ms	-12	A	
I_{CSM}	Collector Current-Peak t_p 2ms	-25	A	
I_B	Base Current	-3	A	
P_C	Collector Power Dissipation @ $T_C=25$	60	W	
T_J	Junction Temperature	150		
T_{stg}	Storage Temperature Range	-65~150		

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	2.08	/W
$R_{th\ j-a}$	Thermal Resistance, Junction to Ambient	70	/W



Silicon PNP Power Transistor

BD202/204

ELECTRICAL CHARACTERISTICS

 $T_C=25$ unless otherwise specified

SYMBOL	PARAMETER		CONDITIONS	MIN	MAX	UNIT
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	BD202	$I_C = -0.2A ; I_B = 0$			V
		BD204				
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage		$I_C = -1mA ; I_E = 0$		-60	V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage		$I_E = -1mA ; I_C = 0$		-5	V
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage		$I_C = -3A ; I_B = -0.3A$		-1.0	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage		$I_C = -6A ; I_B = -0.6A$		-1.5	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage		$I_C = -6A ; I_B = -0.6A$		-2.0	V
$V_{BE(on)}$	Base-Emitter On Voltage		$I_C = -3A ; V_{CE} = -2V$		-1.5	V
I_{CEO}	Collector Cutoff Current		$V_{CE} = -30V ; I_B = 0$		-0.2	mA
I_{CBO}	Collector Cutoff Current		$V_{CB} = -40V ; I_E = 0 ; T_J = 150$		-1.0	mA
I_{EBO}	Emitter Cutoff Current		$V_{EB} = -5V ; I_C = 0$		-0.5	mA
h_{FE}	DC Current Gain	BD201	$I_C = -3A ; V_{CE} = -2V$			30
		BD203				
f_T	Current-Gain—Bandwidth Product		$I_C = -0.3A ; V_{CE} = -3V ; f_{test} = 1.0MHz$		7.0	MHz

Switching Times

t_{on}	Turn-On Time	$I_C = -2A ; I_{B1} = -I_{B2} = -0.2A$		1	μs
t_{off}	Turn-Off Time			2	μs