

isc Silicon PNP Power Transistor

BD202F/204F

DESCRIPTION

- Collector-Emitter Breakdown Voltage-
: $V_{(BR)CEO} = -45V(\text{Min})$ - BD202F
-60V(Min)- BD204F
- Complement to Type BD201F/203F
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

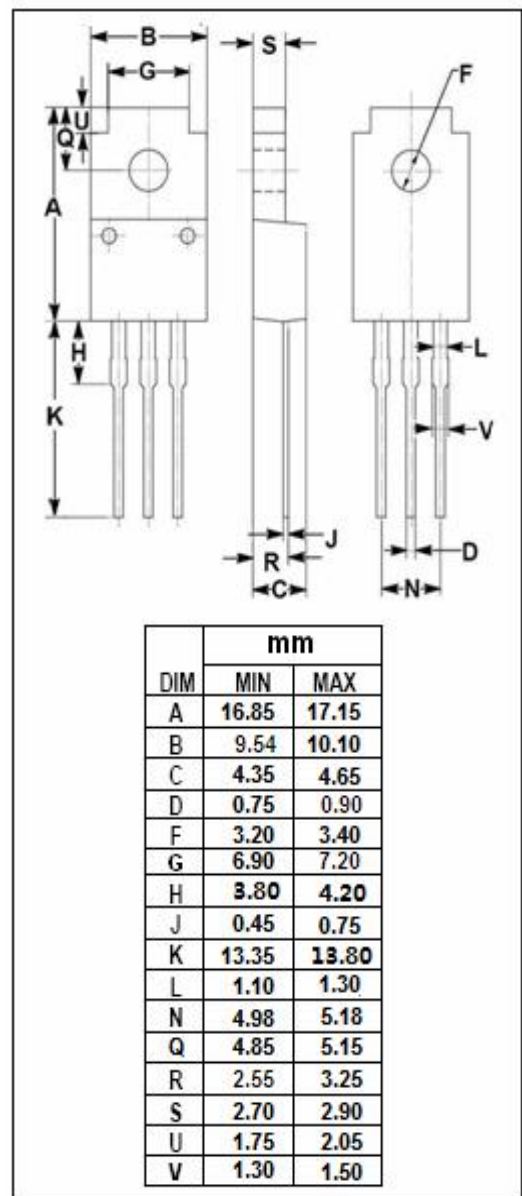
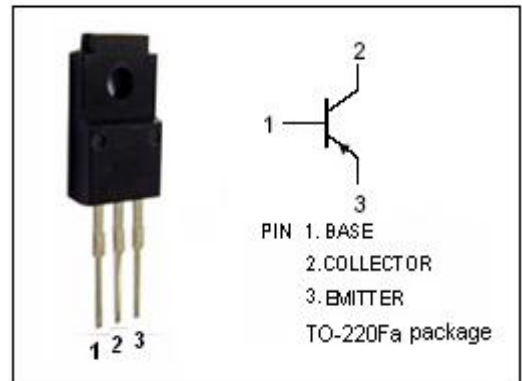
- Designed for use in hi-fi equipment delivering an output of 15 to 15 W into a 4 Ω or 8 Ω load.

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	BD202F	V
		BD204F	
V_{CEO}	Collector-Emitter Voltage	BD202F	V
		BD204F	
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current-Continuous	-8	A
I_{CM}	Collector Current-Peak	-12	A
I_B	Base Current	-3	A
P_C	Collector Power Dissipation @ $T_C=25^\circ\text{C}$	60	W
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature Range	-65~150	$^\circ\text{C}$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	6.3	$^\circ\text{C/W}$



isc Silicon PNP Power Transistor

BD202F/204F

ELECTRICAL CHARACTERISTICS

 $T_C=25^{\circ}\text{C}$ unless otherwise specified

SYMBOL	PARAMETER		CONDITIONS	MIN	MAX	UNIT
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	BD202F	$I_C = -50\text{mA} ; I_B = 0$	-45		V
		BD204F		-60		
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage		$I_C = -1\text{mA} ; I_E = 0$	-60		V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage		$I_E = -1\text{mA} ; I_C = 0$	-5		V
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage		$I_C = -3\text{A}; I_B = -0.3\text{A}$		-1.0	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage		$I_C = -6\text{A}; I_B = -0.6\text{A}$		-1.5	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage		$I_C = -6\text{A}; I_B = -0.6\text{A}$		-2.0	V
$V_{BE(on)}$	Base-Emitter On Voltage		$I_C = -3\text{A} ; V_{CE} = -2\text{V}$		-1.5	V
I_{CEO}	Collector Cutoff Current		$V_{CE} = -30\text{V}; I_B = 0$		-0.2	mA
I_{CBO}	Collector Cutoff Current		$V_{CB} = V_{CBO}; I_E = 0$ $V_{CB} = \frac{1}{2}V_{CBO}; I_E = 0; T_J = 150^{\circ}\text{C}$		-0.1 -1.0	mA
I_{EBO}	Emitter Cutoff Current		$V_{EB} = -5\text{V}; I_C = 0$		-0.5	mA
h_{FE-1}	DC Current Gain	BD202F	$I_C = -3\text{A} ; V_{CE} = -2\text{V}$	30		
		BD204F	$I_C = -2\text{A} ; V_{CE} = -2\text{V}$			
h_{FE-2}	DC Current Gain		$I_C = -1\text{A} ; V_{CE} = -2\text{V}$	30		
f_T	Current-Gain—Bandwidth Product		$I_C = -0.3\text{A} ; V_{CE} = -3\text{V}, f_{test} = 1.0\text{MHz}$	7.0		MHz
Switching Times						
t_{on}	Turn-On Time		$I_C = -2\text{A}; I_{B1} = -I_{B2} = -0.2\text{A}$		1	$\mu\text{ s}$
t_{off}	Turn-Off Time				2	$\mu\text{ s}$

NOTICE:

ISC reserves the rights to make changes of the content herein the datasheet at any time without notification. The information contained herein is presented only as a guide for the applications of our products.

ISC products are intended for usage in general electronic equipment. The products are not designed for use in equipment which require specialized quality and/or reliability, or in equipment which could have applications in hazardous environments, aerospace industry, or medical field. Please contact us if you intend our products to be used in these special applications.

ISC makes no warranty or guarantee regarding the suitability of its products for any particular purpose, nor does ISC assume any liability arising from the application or use of any products, and specifically disclaims any and all liability, including without limitation special, consequential or incidental damages.