

isc Silicon NPN Power Transistor

BD745/A/B/C

DESCRIPTION

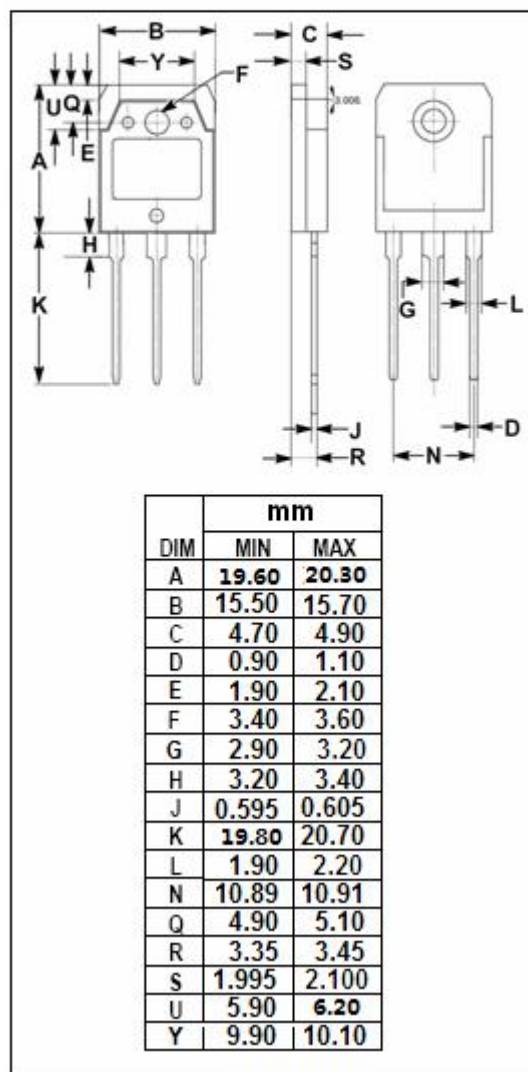
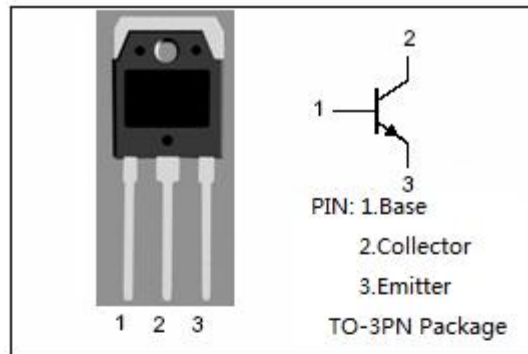
- Collector Current $-I_C = 20A$
- Collector-Emitter Breakdown Voltage-
: $V_{(BR)CEO} = 45V(\text{Min})$ - BD745; $60V(\text{Min})$ - BD745A
 $80V(\text{Min})$ - BD745B; $100V(\text{Min})$ - BD745C
- Complement to Type BD746/A/B/C
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

- Designed for use in general purpose power amplifier and switching applications

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CEr}	Collector-Emitter Voltage ($R_{BE} = 100\Omega$)	BD745	50
		BD745A	70
		BD745B	90
		BD745C	110
V_{CEO}	Collector-Emitter Voltage	BD745	45
		BD745A	60
		BD745B	80
		BD745C	100
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current-Continuous	20	A
I_{CM}	Collector Current-Peak	25	A
I_B	Base Current	7	A
P_C	Collector Power Dissipation @ $T_a=25^\circ\text{C}$	3.5	W
	Collector Power Dissipation @ $T_c=25^\circ\text{C}$	115	
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature Range	-65~150	$^\circ\text{C}$



isc Silicon NPN Power Transistor

BD745/A/B/C

ELECTRICAL CHARACTERISTICS

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

SYMBOL	PARAMETER		CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	BD745	$I_C=30\text{mA}; I_B=0$	45			V
		BD745A		60			
		BD745B		80			
		BD745C		100			
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage		$I_C=5\text{A}; I_B=0.5\text{A}$			1.0	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage		$I_C=20\text{A}; I_B=5\text{A}$			3.0	V
$V_{BE(on)-1}$	Base-Emitter On Voltage		$I_C=5\text{A}; V_{CE}=4\text{V}$			1.0	V
$V_{BE(on)-2}$	Base-Emitter On Voltage		$I_C=20\text{A}; V_{CE}=4\text{V}$			3.0	V
I_{CES}	Collector Cutoff Current	BD745	$V_{CE}=50\text{V}; V_{BE}=0$ $V_{CE}=50\text{V}; V_{BE}=0; T_C=125^{\circ}\text{C}$			0.1 5.0	mA
		BD745A	$V_{CE}=70\text{V}; V_{BE}=0$ $V_{CE}=70\text{V}; V_{BE}=0; T_C=125^{\circ}\text{C}$			0.1 5.0	
		BD745B	$V_{CE}=90\text{V}; V_{BE}=0$ $V_{CE}=90\text{V}; V_{BE}=0; T_C=125^{\circ}\text{C}$			0.1 5.0	
		BD745C	$V_{CE}=110\text{V}; V_{BE}=0$ $V_{CE}=110\text{V}; V_{BE}=0; T_C=125^{\circ}\text{C}$			0.1 5.0	
I_{CEO}	Collector Cutoff Current	BD745/A	$V_{CE}=30\text{V}; I_B=0$			0.1	mA
		BD745B/C	$V_{CE}=60\text{V}; I_B=0$				
I_{EBO}	Emitter Cutoff Current		$V_{EB}=5\text{V}; I_C=0$			0.5	mA
h_{FE-1}	DC Current Gain		$I_C=1\text{A}; V_{CE}=4\text{V}$	40			
h_{FE-2}	DC Current Gain		$I_C=5\text{A}; V_{CE}=4\text{V}$	20		150	
h_{FE-3}	DC Current Gain		$I_C=20\text{A}; V_{CE}=4\text{V}$	5			

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.