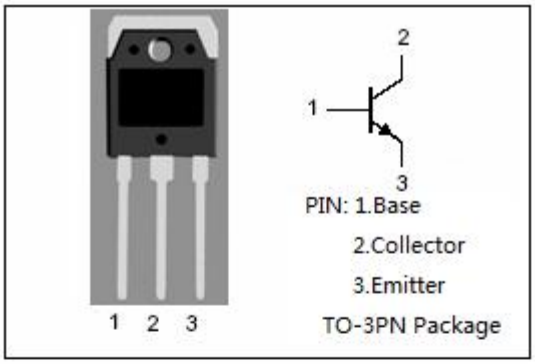
isc Silicon NPN Power Transistor — BD745/A/B/C

DESCRIPTION

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

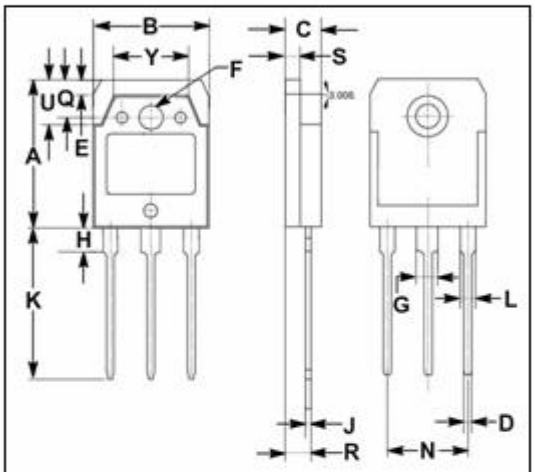


APPLICATIONS

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

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

SYMBOL	PARAMETER		VALUE	UNIT
V_{CER}	Collector-Emitter Voltage (R_{BE}= 100Ω)	BD745	50	V
		BD745A	70	
		BD745B	90	
		BD745C	110	
V_{CEO}	Collector-Emitter Voltage	BD745	45	V
		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℃		3.5	W
	Collector Power Dissipation @ T_C=25℃		115	
T_J	Junction Temperature		150	℃
T_{stg}	Storage Temperature Range		-65~150	℃



DIM	mm MIN	MAX
A	19.60	20.30
B	15.50	15.70
C	4.70	4.90
D	0.90	1.10
E	1.90	2.10
F	3.40	3.60
G	2.90	3.20
H	3.20	3.40
J	0.595	0.605
K	19.80	20.70
L	1.90	2.20
N	10.89	10.91
Q	4.90	5.10
R	3.35	3.45
S	1.995	2.100
U	5.90	6.20
Y	9.90	10.10

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ELECTRICAL CHARACTERISTICS

T_C=25℃ unless otherwise specified

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