isc Silicon PNP Power Transistor　　　　　　　**BD744**

DESCRIPTION

- Collector-Emitter Breakdown Voltage-
  : $V_{(BR)CEO}$= -45V(Min)
- Collector Power Dissipation-
  : P_C= 90W@ I_C= 25℃
- 15A Continuous Collector Current
- Complement to Type BD743

APPLICATIONS

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

PIN 1. BASE
2. COLLECTOR
3. EMITTER
TO-220C package

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	-50	V
V_{CEO}	Collector-Emitter Voltage	-45	V
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current-Continuous	-15	A
I_{CM}	Collector Current-Peak	-20	A
I_B	Base Current-Continuous	-5	A
P_C	Collector Power Dissipation @ T_a=25℃	2	W
	Collector Power Dissipation @ T_C=25℃	90	
T_J	Junction Temperature	150	℃
T_{stg}	Storage Temperature Range	-65~150	℃

DIM	mm MIN	mm MAX
A	15.70	15.90
B	9.90	10.10
C	4.20	4.40
D	0.70	0.90
F	3.40	3.60
G	4.98	5.18
H	2.70	2.90
J	0.44	0.46
K	13.20	13.40
L	1.10	1.30
Q	2.70	2.90
R	2.50	2.70
S	1.29	1.31
U	6.45	6.65
V	8.66	8.86

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	1.4	℃/W
$R_{th\ j-a}$	Thermal Resistance, Junction to Ambient	62.5	℃/W
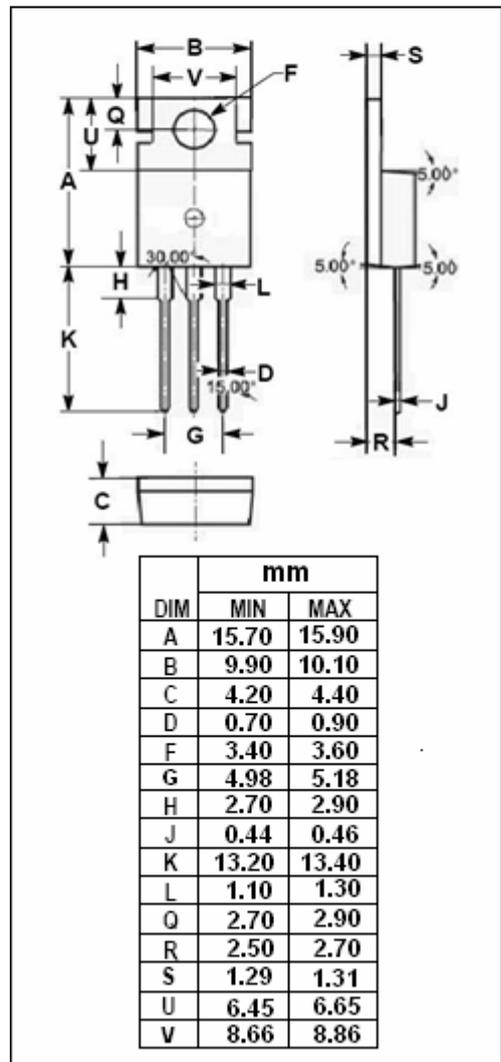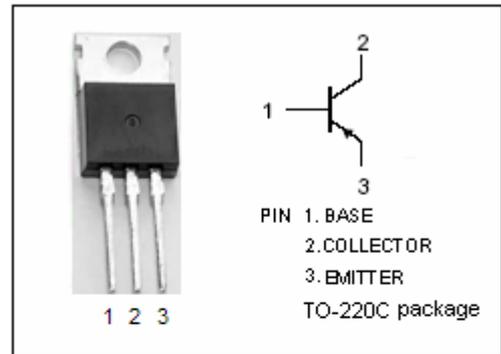
isc Silicon PNP Power Transistor   **BD744**

ELECTRICAL CHARACTERISTICS

T$_C$=25℃ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN		MAX	UNIT
V$_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	I$_C$= -30mA; I$_B$= 0	-45			V
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$_C$= -15A; 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$_C$= -15A ; V$_{CE}$= -4V			-3.0	V
I$_{CBO}$	Collector Cutoff Current	V$_{CB}$= -50V; I$_E$= 0			-0.1	mA
		V$_{CB}$= -50V; I$_E$= 0; T$_C$= 125℃			-5.0	
I$_{CEO}$	Collector Cutoff Current	V$_{CE}$= -30V; I$_B$= 0			-0.1	mA
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$_C$= -15A ; V$_{CE}$= -4V	5			

Switching Times

t$_d$	Delay Time			20		ns
t$_r$	Rise Time	I$_C$= -5A; I$_{B1}$= -I$_{B2}$= -5A; V$_{BE(off)}$= 4.2V; RL= 6 Ω ; t$_P$= 20 μ s,DutyCycle≤ 2%		120		ns
t$_s$	Storage Time			600		ns
t$_f$	Fall time			300		ns