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Silicon PNP Power Transistor

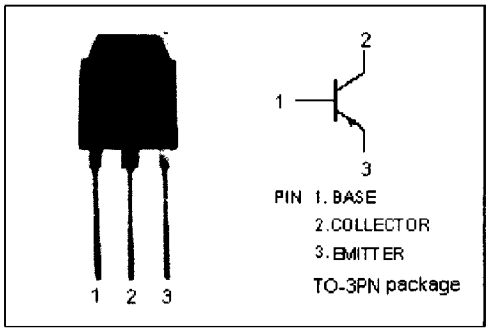
BD746/A/B/C

DESCRIPTION

- Collector Current $-I_C$= -20A
- Collector-Emitter Breakdown Voltage-
  : $V_{(BR)CEO}$ = -45V(Min)- BD746; -60V(Min)- BD746A
  -80V(Min)- BD746B; -100V(Min)- BD746C
- Complement to Type BD745/A/B/C

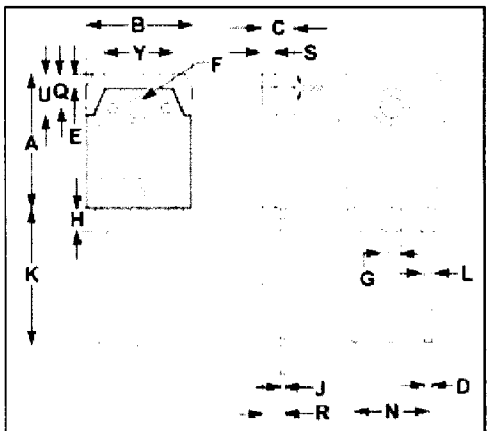
APPLICATIONS

- 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)	BD746	-50	V
		BD746A	-70	
		BD746B	-90	
		BD746C	-110	
V_{CEO}	Collector-Emitter Voltage	BD746	-45	V
		BD746A	-60	
		BD746B	-80	
		BD746C	-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	19.90	20.10
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	3.10
H	3.20	3.40
J	0.595	0.605
K	20.50	20.70
L	1.90	2.10
N	10.89	10.91
Q	4.90	5.10
R	3.35	3.45
S	1.995	2.005
U	5.90	6.10
Y	9.90	10.10

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j\text{-}c}$	Thermal Resistance, Junction to Case	1.1	℃/W

ELECTRICAL CHARACTERISTICS

T_C=25℃ unless otherwise specified

SYMBOL	PARAMETER		CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	BD746	I_C= -30mA ;I_B=0	-45			V
		BD746A		-60			
		BD746B		-80			
		BD746C		-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	BD746	V_{CE}= -50V; V_{BE}= 0			-0.1	mA
			V_{CE}= -50V; V_{BE}= 0; T_C= 125℃			-5.0	
		BD746A	V_{CE}= -70V; V_{BE}= 0			-0.1	
			V_{CE}= -70V; V_{BE}= 0; T_C= 125℃			-5.0	
		BD746B	V_{CE}= -90V; V_{BE}= 0			-0.1	
			V_{CE}= -90V; V_{BE}= 0; T_C= 125℃			-5.0	
		BD746C	V_{CE}= -110V; V_{BE}= 0			-0.1	
			V_{CE}= -110V; V_{BE}= 0; T_C= 125℃			-5.0	
I_{CEO}	Collector Cutoff Current	BD746/A	V_{CE}= -30V; I_B= 0			-0.1	mA
		BD746B/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			

Switching times

t_d	Delay Time	I_C= -5A; I_{B1}= -I_{B2}= -0.5A; R_L= 6 Ω ; $V_{BE(off)}$= 4.2V		0.02		μ s
t_r	Rise Time			0.12		μ s
t_s	Storage Time			0.60		μ s
t_f	Fall Time			0.30		μ s