

isc Silicon PNP Power Transistor

BDX78F

DESCRIPTION

- Collector-Emitter Breakdown Voltage-
: $V_{(BR)CEO} = -80V(\text{Min})$
- Complement to Type BDX77F
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

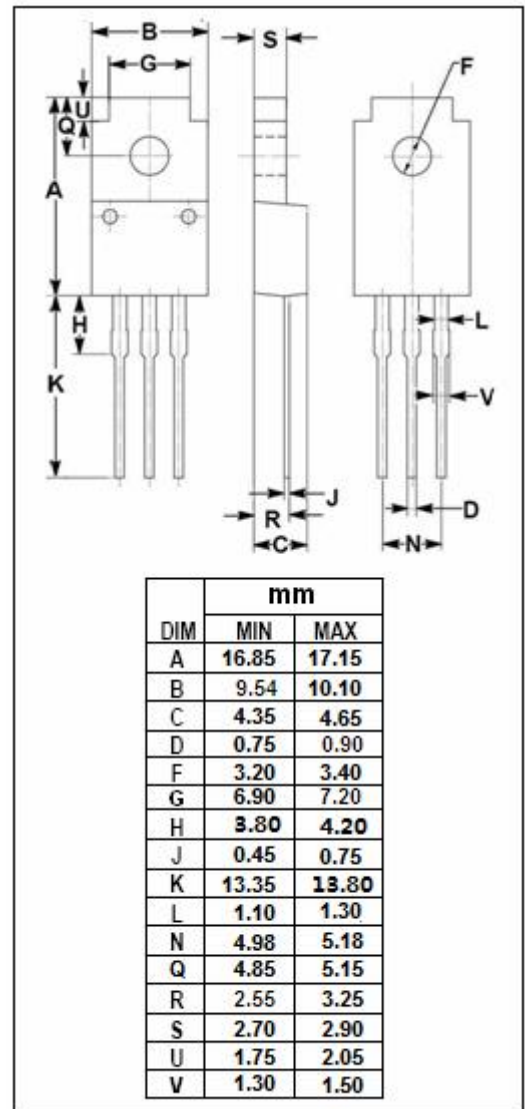
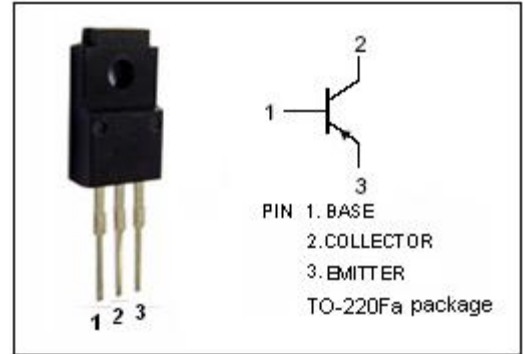
- Designed for use in hi-fi equipment delivering an output of 15 to 15 W into a 4Ω or 8Ω load.

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	-100	V
V_{CEO}	Collector-Emitter Voltage	-80	V
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current-Continuous	-8	A
I_{CM}	Collector Current-Peak s	-12	A
I_B	Base Current	-3	A
P_C	Collector Power Dissipation @ $T_C=25^\circ\text{C}$	32	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	$^\circ\text{C/W}$



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ELECTRICAL CHARACTERISTICS

T_C=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
V _{(BR)CEO}	Collector-Emitter Breakdown Voltage	I _C = -30mA ; I _B = 0	-80		V
V _{(BR)CBO}	Collector-Base Breakdown Voltage	I _C = -1mA ; I _E = 0	-100		V
V _{(BR)EBO}	Emitter-Base Breakdown Voltage	I _E = -1mA ; I _C = 0	-5		V
V _{CE(sat)-1}	Collector-Emitter Saturation Voltage	I _C = -3A; I _B = -0.3A		-1.0	V
V _{CE(sat)-2}	Collector-Emitter Saturation Voltage	I _C = -6A; I _B = -0.6A		-1.5	V
V _{BE(sat)}	Base-Emitter Saturation Voltage	I _C = -6A; I _B = -0.6A		-2.0	V
V _{BE(on)}	Base-Emitter On Voltage	I _C = -3A ; V _{CE} = -2V		-1.5	V
I _{CEO}	Collector Cutoff Current	V _{CE} = 40V; I _B = 0		-0.2	mA
I _{CBO}	Collector Cutoff Current	V _{CB} = V _{CBO} ; I _E = 0 V _{CB} = 1/2 V _{CBO} ; I _E = 0; T _J = 150°C		-0.1 -1.0	mA
I _{EBO}	Emitter Cutoff Current	V _{EB} = -5V; I _C =0		-0.5	mA
h _{FE}	DC Current Gain	I _C = -2A ; V _{CE} = -2V	30		
f _T	Current-Gain—Bandwidth Product	I _C = -0.3A ; V _{CE} = -3V, f _{test} = 1.0MHz	7.0		MHz

Switching Times

t _{on}	Turn-On Time	I _C = -2A; I _{B1} = -I _{B2} = -0.2A		1	μ s
t _{off}	Turn-Off Time			2	μ s

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