

INCHANGE Semiconductor

isc Product Specification

isc Silicon PNP Power Transistors

BDT82/84/86/88

DESCRIPTION

- DC Current Gain $-h_{FE} = 40(\text{Min}) @ I_C = -5\text{A}$
- Collector-Emitter Sustaining Voltage-
: $V_{CEO(\text{SUS})} = -60\text{V}(\text{Min})$ - BDT82; $-80\text{V}(\text{Min})$ - BDT84;
-100V(Min)- BDT86; $-120\text{V}(\text{Min})$ - BDT88
- Complement to Type BDT81/83/85/87

APPLICATIONS

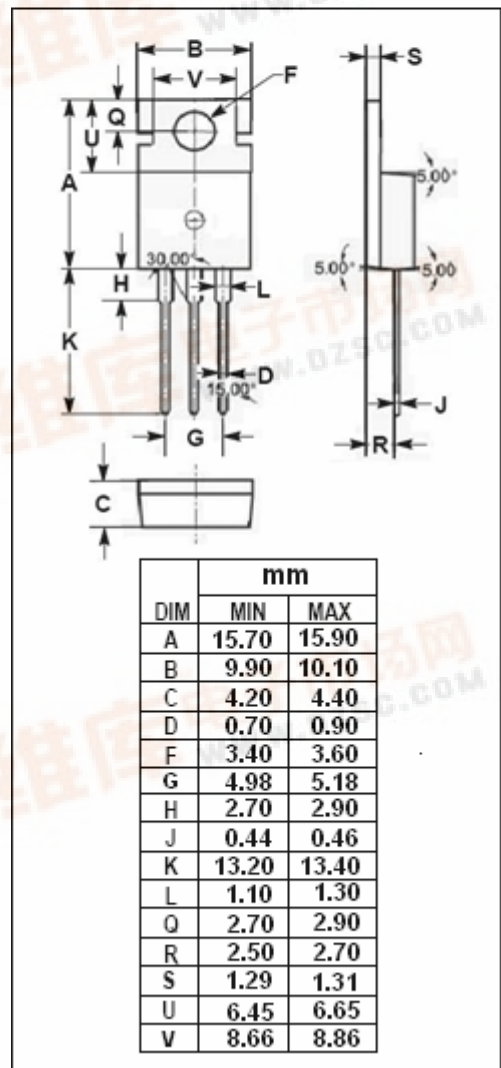
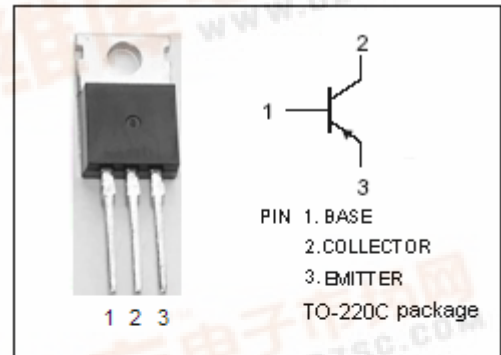
- Designed for use in audio output stages and general amplifier and switching applications

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	BDT82	-60
		BDT84	-80
		BDT86	-100
		BDT88	-120
V_{CEO}	Collector-Emitter Voltage	BDT82	-60
		BDT84	-80
		BDT86	-100
		BDT88	-120
V_{EBO}	Emitter-Base Voltage	-7	V
I_C	Collector Current-Continuous	-15	A
I_{CM}	Collector Current-Peak	-20	A
I_B	Base Current	-4	A
P_C	Collector Power Dissipation $T_C=25^\circ\text{C}$	125	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	1	$^\circ\text{C}/\text{W}$
$R_{th\ j-a}$	Thermal Resistance, Junction to Ambient	70	$^\circ\text{C}/\text{W}$



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ELECTRICAL CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CE(SUS)}$	Collector-Emitter Sustaining Voltage	BDT82	$I_C = -30\text{mA}; I_B = 0$			V
		BDT84				
		BDT86				
		BDT88				
$V_{CE(sat)-1}$	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	$I_C = -7\text{A}; I_B = -0.7\text{A}$			-1.6	V
$V_{BE(on)}$	Base-Emitter On Voltage	$I_C = -5\text{A}; V_{CE} = -4\text{V}$			-1.5	V
I_{CES}	Collector Cutoff Current	$V_{CE} = 0.8V_{CB0max}; V_{BE} = 0$			-1	mA
I_{CBO}	Collector Cutoff Current	$V_{CB} = V_{CB0max}; I_E = 0$			-0.2	mA
I_{EBO}	Emitter Cutoff Current	$V_{EB} = -7\text{V}; I_C = 0$			-0.1	mA
h_{FE-1}	DC Current Gain	$I_C = -50\text{mA}; V_{CE} = -10\text{V}$	40			
h_{FE-2}	DC Current Gain	$I_C = -5\text{A}; V_{CE} = -4\text{V}$	40			
f_T	Current-Gain—Bandwidth Product	$I_C = -0.5\text{A}; V_{CE} = -10\text{V}$		20		MHz

Switching Times

t_{on}	Turn-On Time	$I_C = -7\text{A}; I_{B1} = -I_{B2} = -0.7\text{A}$			1	μs
t_{off}	Turn-Off Time				2	μs