

## isc Silicon PNP Power Transistors

## BDT82/84/86/88

## DESCRIPTION

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

## APPLICATIONS

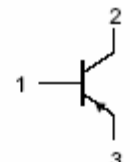
- Designed for use in audio output stages and general amplifier and switching applications

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

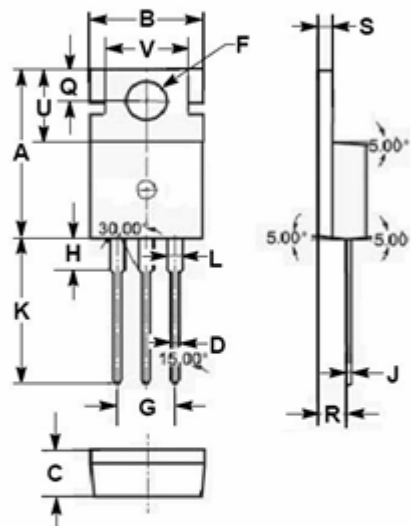
SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	BDT82	-60
		BDT84	-80
		BDT86	-100
		BDT88	-120
$V_{CEO}$	Collector-Emitter Voltage	BDT82	-60
		BDT84	-80
		BDT86	-100
		BDT88	-120
$V_{EBO}$	Emitter-Base Voltage	-7	V
$I_C$	Collector Current-Continuous	-15	A
$I_{CM}$	Collector Current-Peak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



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



DIM	mm	
	MIN	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

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## ELECTRICAL CHARACTERISTICS

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

SYMBOL	PARAMETER		CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	BDT82	$I_C = -30\text{mA}; I_B = 0$	-60			V
		BDT84		-80			
		BDT86		-100			
		BDT88		-120			
$V_{CE(sat)-1}$	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	$\mu\text{s}$
$t_{off}$	Turn-Off Time				2	$\mu\text{s}$