

isc Silicon PNP Darlington Power Transistor

BDT64/A/B/C

DESCRIPTION

- Collector Current $I_C = -12A$
- High DC Current Gain $h_{FE} = 1000(\text{Min}) @ I_C = -5A$
- Complement to Type BDT65/A/B/C
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

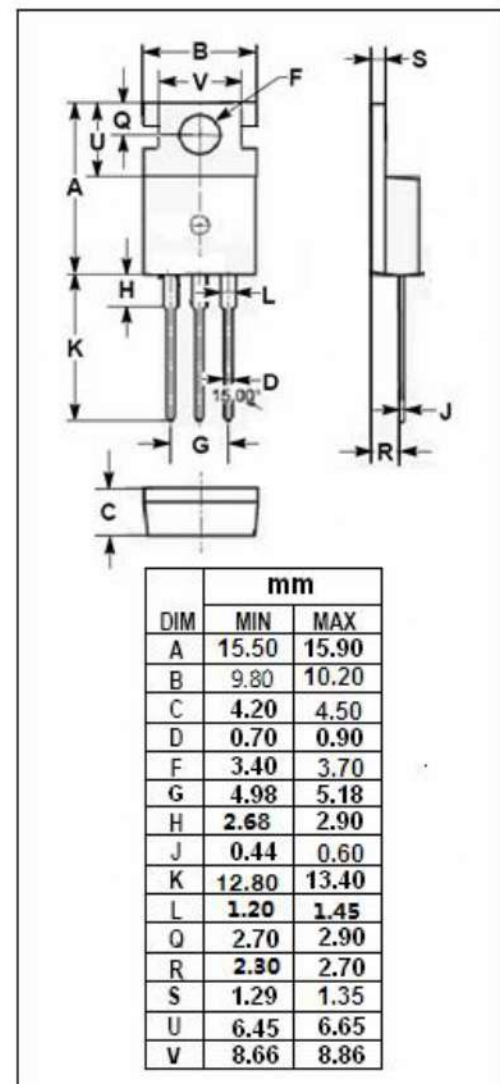
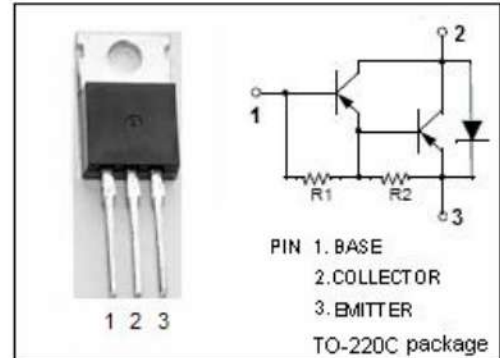
- Designed for audio output stages and general purpose amplifier applications

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CE}	Collector-Emitter Voltage	BDT64	-60
		BDT64A	-80
		BDT64B	-100
		BDT64C	-120
V_{CEO}	Collector-Emitter Voltage	BDT64	-60
		BDT64A	-80
		BDT64B	-100
		BDT64C	-120
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current-Continuous	-12	A
I_{CM}	Collector Current-Peak	-20	A
I_B	Base Current-Continuous	-0.5	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	$^\circ\text{C/W}$



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ELECTRICAL CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	BDT64	-60			V
		BDT64A	-80			
		BDT64B	-100			
		BDT64C	-120			
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	$I_C = -5A; I_B = -20mA$			-2.0	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage	$I_C = -10A; I_B = -100mA$			-3.0	V
$V_{BE(on)}$	Base-Emitter On Voltage	$I_C = -5A; V_{CE} = -4V$			-2.5	V
V_{ECF-1}	C-E Diode Forward Voltage	$I_F = -5A$			-2.0	V
V_{ECF-2}	C-E Diode Forward Voltage	$I_F = -12A$		-2.0		V
I_{CEO}	Collector Cutoff Current	$V_{CE} = \frac{1}{2}V_{CEOmax}; I_B = 0$			-0.2	mA
I_{CBO}	Collector Cutoff Current	$V_{CB} = V_{CB0max}; I_E = 0$ $V_{CB} = \frac{1}{2}V_{CB0max}; I_E = 0; T_C = 150^\circ\text{C}$			-0.4 -2.0	mA
I_{EBO}	Emitter Cutoff Current	$V_{EB} = -5V; I_C = 0$			-5	mA
h_{FE-1}	DC Current Gain	$I_C = -1A; V_{CE} = -4V$		1500		
h_{FE-2}	DC Current Gain	$I_C = -5A; V_{CE} = -4V$	1000			
h_{FE-3}	DC Current Gain	$I_C = -12A; V_{CE} = -4V$		750		
C_{OB}	Output Capacitance	$I_E = 0; V_{CB} = -10V; f_{test} = 1MHz$		200		pF
Switching times						
t_{on}	Turn-On Time	$I_C = -5A; I_{B1} = -I_{B2} = -20mA;$ $V_{CC} = -30V$		0.5	2	μs
t_{off}	Turn-Off Time			2.5	5	μs

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