

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

APPLICATIONS

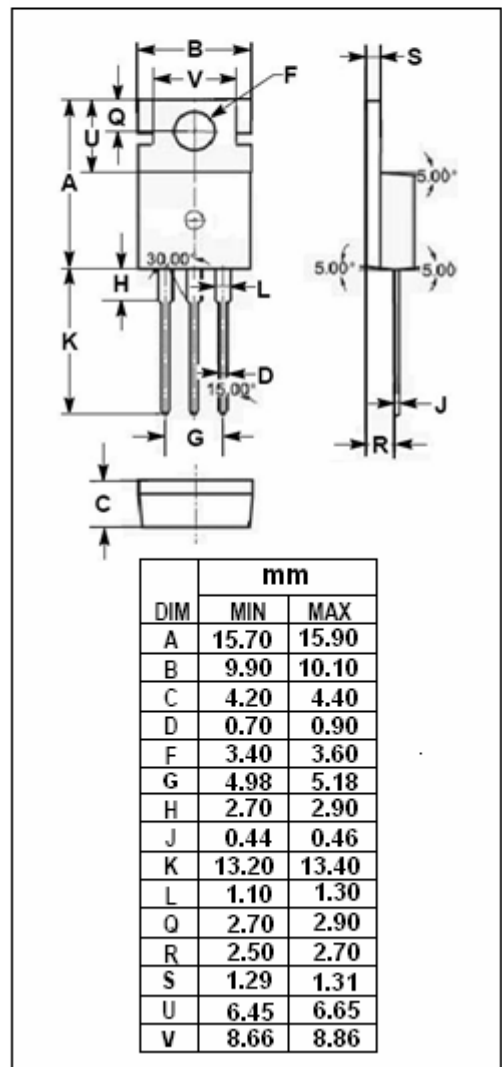
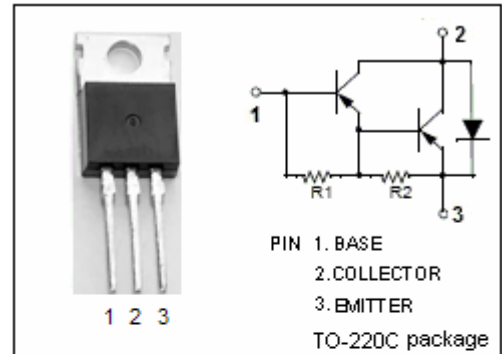
- Designed for audio output stages and general purpose amplifier applications

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

SYMBOL	PARAMETER	VALUE	UNIT	
V_{CER}	Collector-Emitter Voltage	BDT64	-60	V
		BDT64A	-80	
		BDT64B	-100	
		BDT64C	-120	
V_{CEO}	Collector-Emitter Voltage	BDT64	-60	V
		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	$I_C = -30\text{mA}; I_B = 0$	BDT64	-60			V
			BDT64A	-80			
			BDT64B	-100			
			BDT64C	-120			
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	$I_C = -5\text{A}; I_B = -20\text{mA}$			-2.0	V	
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage	$I_C = -10\text{A}; I_B = -100\text{mA}$			-3.0	V	
$V_{BE(on)}$	Base-Emitter On Voltage	$I_C = -5\text{A}; V_{CE} = -4\text{V}$			-2.5	V	
V_{ECF-1}	C-E Diode Forward Voltage	$I_F = -5\text{A}$			-2.0	V	
V_{ECF-2}	C-E Diode Forward Voltage	$I_F = -12\text{A}$		-2.0		V	
I_{CEO}	Collector Cutoff Current	$V_{CE} = \frac{1}{2}V_{CE0max}; I_B = 0$			-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	$V_{EB} = -5\text{V}; I_C = 0$			-5	mA	
h_{FE-1}	DC Current Gain	$I_C = -1\text{A}; V_{CE} = -4\text{V}$		1500			
h_{FE-2}	DC Current Gain	$I_C = -5\text{A}; V_{CE} = -4\text{V}$	1000				
h_{FE-3}	DC Current Gain	$I_C = -12\text{A}; V_{CE} = -4\text{V}$		750			
C_{OB}	Output Capacitance	$I_E = 0; V_{CB} = -10\text{V}; f_{test} = 1\text{MHz}$		200		pF	

Switching times

t_{on}	Turn-On Time	$I_C = -5\text{A}; I_{B1} = -I_{B2} = -20\text{mA};$ $V_{CC} = -30\text{V}$		0.5	2	μs
t_{off}	Turn-Off Time			2.5	5	μs