

isc Silicon PNP Darlington Power Transistors
BDT60F/AF/BF/CF
DESCRIPTION

- DC Current Gain $-h_{FE} = 750(\text{Min})@ I_C = -1.5\text{A}$
- Collector-Emitter Sustaining Voltage-
: $V_{CEO(\text{SUS})} = -60\text{V}(\text{Min})$ - BDT60F; $-80\text{V}(\text{Min})$ - BDT60AF
 $-100\text{V}(\text{Min})$ - BDT60BF; $-120\text{V}(\text{Min})$ - BDT60CF
- Complement to Type BDT61F/61AF/61BF/61CF
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

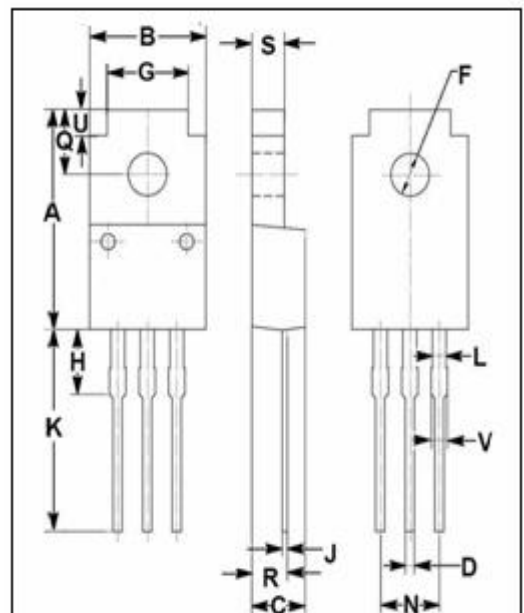
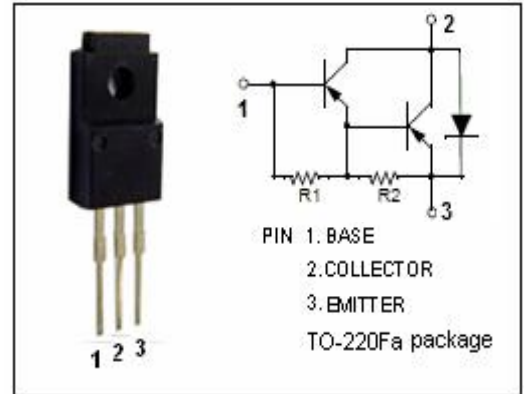
- Designed for use in audio amplifier output stages , general purpose amplifier and high speed switching applications

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	BDT60F	-60
		BDT60AF	-80
		BDT60BF	-100
		BDT60CF	-120
V_{CEO}	Collector-Emitter Voltage	BDT60F	-60
		BDT60AF	-80
		BDT60BF	-100
		BDT60CF	-120
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current-Continuous	-4	A
I_{CM}	Collector Current-Pulse	-6	A
I_B	Base Current	-0.1	A
P_C	Collector Power Dissipation $T_C=25^\circ\text{C}$	25	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	5	$^\circ\text{C/W}$



DIM	mm	
	MIN	MAX
A	16.85	17.15
B	9.54	10.10
C	4.35	4.65
D	0.75	0.90
F	3.20	3.40
G	6.90	7.20
H	3.80	4.20
J	0.45	0.75
K	13.35	13.80
L	1.10	1.30
N	4.98	5.18
Q	4.85	5.15
R	2.55	3.25
S	2.70	2.90
U	1.75	2.05
V	1.30	1.50

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ELECTRICAL CHARACTERISTICS

 T_C=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT	
V _{CEO(SUS)}	Collector-Emitter Sustaining Voltage	I _C = -30mA; I _B = 0	BDT60F	-60			V
			BDT60AF	-80			
			BDT60BF	-100			
			BDT60CF	-120			
V _{CE(sat)}	Collector-Emitter Saturation Voltage	I _C = -1.5A; I _B = -6mA			-2.5	V	
V _{BE(on)}	Base-Emitter On Voltage	I _C = -1.5A ; V _{CE} = -3V			-2.5	V	
I _{CBO}	Collector Cutoff Current	V _{CB} = -30V; I _E = 0 V _{CB} = 1/2V _{CBO} ; I _E = 0; T _J =150°C			-0.2 -1	mA	
I _{CEO}	Collector Cutoff Current	V _{CE} = 1/2V _{CEO} ; I _B = 0			-0.2	mA	
I _{EBO}	Emitter Cutoff Current	V _{EB} = -5V; I _C = 0			-5	mA	
h _{FE-1}	DC Current Gain	I _C = -0.5A ; V _{CE} = -3V		2000			
h _{FE-2}	DC Current Gain	I _C = -1.5A ; V _{CE} = -3V	750				
h _{FE-3}	DC Current Gain	I _C = -4A ; V _{CE} = -3V		250			
V _{ECF-1}	C-E Diode Forward Voltage	I _F = 1.5A			2	V	
V _{ECF-2}	C-E Diode Forward Voltage	I _F = 4A		2.1		V	
Switching Times							
t _{on}	Turn-On Time	I _C = -1.5A; I _{B1} = -I _{B2} = -6mA		0.3	1.5	μs	
t _{off}	Turn-Off Time			1.5	5.0	μs	

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