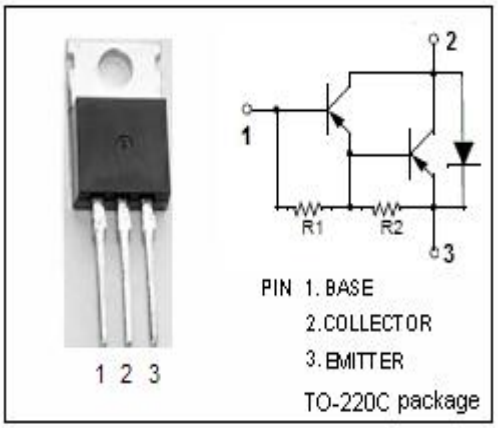
isc Silicon PNP Darlington Power Transistors — BDT60/A/B/C

DESCRIPTION

- DC Current Gain -h_{FE} = 750(Min)@ I_C= -1.5A
- Collector-Emitter Sustaining Voltage-
  : $V_{CEO(SUS)}$ = -60V(Min)- BDT60; -80V(Min)- BDT60A;
  -100V(Min)- BDT60B; -120V(Min)- BDT60C
- Complement to Type BDT61/A/B/C
- Minimum Lot-to-Lot variations for robust device performance and reliable operation



APPLICATIONS

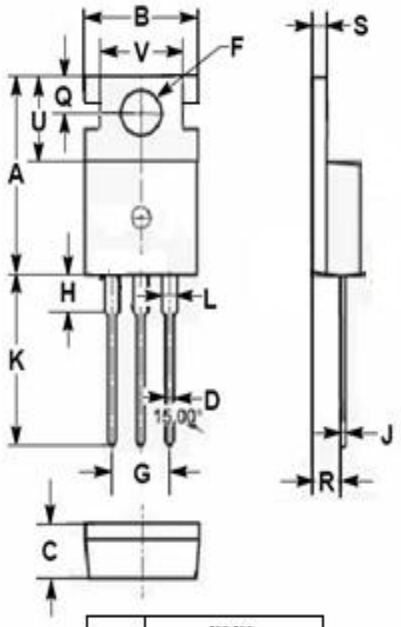
- Designed for use in audio amplifier output stages , general purpose amplifier and high speed switching applications

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

SYMBOL	PARAMETER		VALUE	UNIT
V_{CBO}	Collector-Base Voltage	BDT60	-60	V
		BDT60A	-80	
		BDT60B	-100	
		BDT60C	-120	
V_{CEO}	Collector-Emitter Voltage	BDT60	-60	V
		BDT60A	-80	
		BDT60B	-100	
		BDT60C	-120	
V_{EBO}	Emitter-Base Voltage		-5	V
I_C	Collector Current-Continuous		-4	A
I_B	Base Current		-0.1	A
P_C	Collector Power Dissipation T_a=25℃		2	W
	Collector Power Dissipation T_C=25℃		50	
T_j	Junction Temperature		150	℃
T_{stg}	Storage Ttemperature Range		-65~150	℃

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j\text{-}c}$	Thermal Resistance,Junction to Case	2.5	℃/W
$R_{th\ j\text{-}c}$	Thermal Resistance,Junction to Ambient	62.5	℃/W



DIM	mm MIN	MAX
A	15.50	15.90
B	9.80	10.20
C	4.20	4.50
D	0.70	0.90
F	3.40	3.70
G	4.98	5.18
H	2.68	2.90
J	0.44	0.60
K	12.80	13.40
L	1.20	1.45
Q	2.70	2.90
R	2.30	2.70
S	1.29	1.35
U	6.45	6.65
V	8.66	8.86

ELECTRICAL CHARACTERISTICS

T_C=25℃ unless otherwise specified

SYMBOL	PARAMETER		CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	BDT60	I_C= -30mA; I_B= 0	-60			V
		BDT60A		-80			
		BDT60B		-100			
		BDT60C		-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	BDT60	V_{CB}= -60V; I_E= 0 V_{CB}= -30V; I_E= 0; T_J=150℃			-0.2 -2.0	mA
		BDT60A	V_{CB}= -80V; I_E= 0 V_{CB}= -40V; I_E= 0; T_J=150℃			-0.2 -2.0	
		BDT60B	V_{CB}= -100V; I_E= 0 V_{CB}= -50V; I_E= 0; T_J=150℃			-0.2 -2.0	
		BDT60C	V_{CB}= -120V; I_E= 0 V_{CB}= -60V; I_E= 0; T_J=150℃			-0.2 -2.0	
I_{CEO}	Collector Cutoff Current	BDT60	V_{CE}= -30V; I_B= 0			-0.5	mA
		BDT60A	V_{CE}= -40V; I_B= 0			-0.5	
		BDT60B	V_{CE}= -50V; I_B= 0			-0.5	
		BDT60C	V_{CE}= -60V; I_B= 0			-0.5	
I_{EBO}	Emitter Cutoff Current		V_{EB}= -5V; I_C= 0			-5	mA
h_{FE}	DC Current Gain		I_C= -1.5A; V_{CE}= -3V	750			
V_{ECF}	C-E Diode Forward Voltage		I_E= -1.5A			-2.0	V
Switching Times							
t_{on}	Turn-On Time		I_C= -2A; I_{B1}= -I_{B2}= -8mA; $V_{BE(off)}$= 5V; R_L= 20Ω		1.0		μs
t_{off}	Turn-Off Time				4.5		μs

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