New Jersey Semi-Conductor Products, Inc.

20 STERN AVE.
SPRINGFIELD, NEW JERSEY 07081
U.S.A.

TELEPHONE: (973) 376-2922
(212) 227-6005
FAX: (973) 376-8960

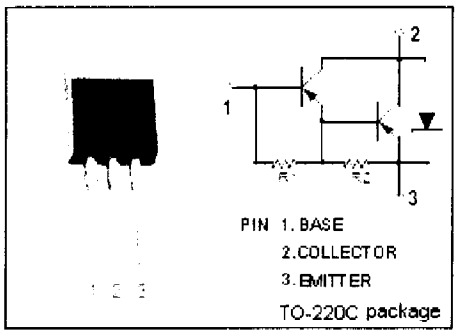
Silicon PNP Darlington Power Transistors — BDT62/A/B/C

DESCRIPTION

- DC Current Gain -h_{FE} = 1000(Min)@ I_C= -3A
- Collector-Emitter Sustaining Voltage-
  : $V_{CEO(SUS)}$ = -60V(Min)- BDT62; -80V(Min)- BDT62A;
  -100V(Min)- BDT62B; -120V(Min)- BDT62C
- Complement to Type BDT63/A/B/C

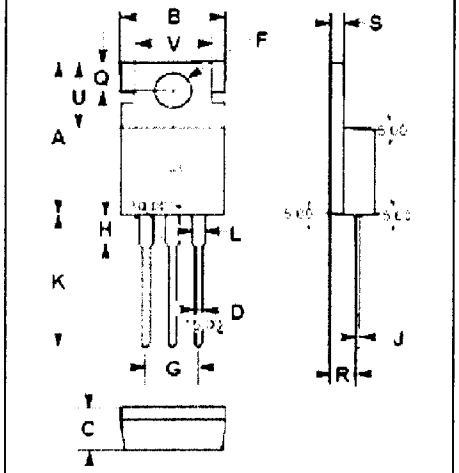
APPLICATIONS

- 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	BDT62	-60	V
		BDT62A	-80	
		BDT62B	-100	
		BDT62C	-120	
V_{CEO}	Collector-Emitter Voltage	BDT62	-60	V
		BDT62A	-80	
		BDT62B	-100	
		BDT62C	-120	
V_{EBO}	Emitter-Base Voltage		-5	V
I_C	Collector Current-Continuous		-10	A
I_{CM}	Collector Current-Peak		-15	A
I_B	Base Current		-0.25	A
P_C	Collector Power Dissipation T_C=25℃		90	W
T_J	Junction Temperature		150	℃
T_{stg}	Storage Ttemperature Range		-65~150	℃



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

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j\text{-}c}$	Thermal Resistance,Junction to Case	1.39	℃/W
$R_{th\ j\text{-}c}$	Thermal Resistance,Junction to Ambient	70	℃/W

Quality Semi-Conductors

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ELECTRICAL CHARACTERISTICS

T_C=25℃ unless otherwise specified

SYMBOL	PARAMETER		CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	BDT62	I_C= -30mA; I_B= 0	-60			V
		BDT62A		-80			
		BDT62B		-100			
		BDT62C		-120			
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage		I_C= -3A; I_B= -12mA			-2.0	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage		I_C= -8A; I_B= -80mA			-2.5	V
$V_{BE(on)}$	Base-Emitter On Voltage		I_C= -3A; V_{CE}= -3V			-2.5	V
I_{CBO}	Collector Cutoff Current	BDT62	V_{CB}= -60V; I_E= 0 V_{CB}= -30V; I_E= 0; T_J=150℃			-0.2 -2.0	mA
		BDT62A	V_{CB}= -80V; I_E= 0 V_{CB}= -40V; I_E= 0; T_J=150℃			-0.2 -2.0	
		BDT62B	V_{CB}= -100V; I_E= 0 V_{CB}= -50V; I_E= 0; T_J=150℃			-0.2 -2.0	
		BDT62C	V_{CB}= -120V; I_E= 0 V_{CB}= -60V; I_E= 0; T_J=150℃			-0.2 -2.0	
I_{CEO}	Collector Cutoff Current	BDT62	V_{CE}= -30V; I_B= 0			-0.5	mA
		BDT62A	V_{CE}= -40V; I_B= 0			-0.5	
		BDT62B	V_{CE}= -50V; I_B= 0			-0.5	
		BDT62C	V_{CE}= -60V; I_B= 0			-0.5	
I_{EBO}	Emitter Cutoff Current		V_{EB}= -5V; I_C= 0			-5	mA
h_{FE-1}	DC Current Gain		I_C= -3A; V_{CE}= -3V	1000			
h_{FE-2}	DC Current Gain		I_C= -10A; V_{CE}= -3V		200		
V_{ECF}	C-E Diode Forward Voltage		I_E= -3A			-2.0	V

Switching Times

t_{on}	Turn-On Time	I_C= -3A; I_{B1}= -I_{B2}= -12mA		0.5		μs
t_{off}	Turn-Off Time			2.5		μs

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