

isc Silicon PNP Darlington Power Transistors

BDT62F

DESCRIPTION

- DC Current Gain $-h_{FE} = 1000(\text{Min})@ I_C = -3A$
- Collector-Emitter Sustaining Voltage-
: $V_{CEO(\text{SUS})} = -60V(\text{Min})$
- Complement to Type BDT63F
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

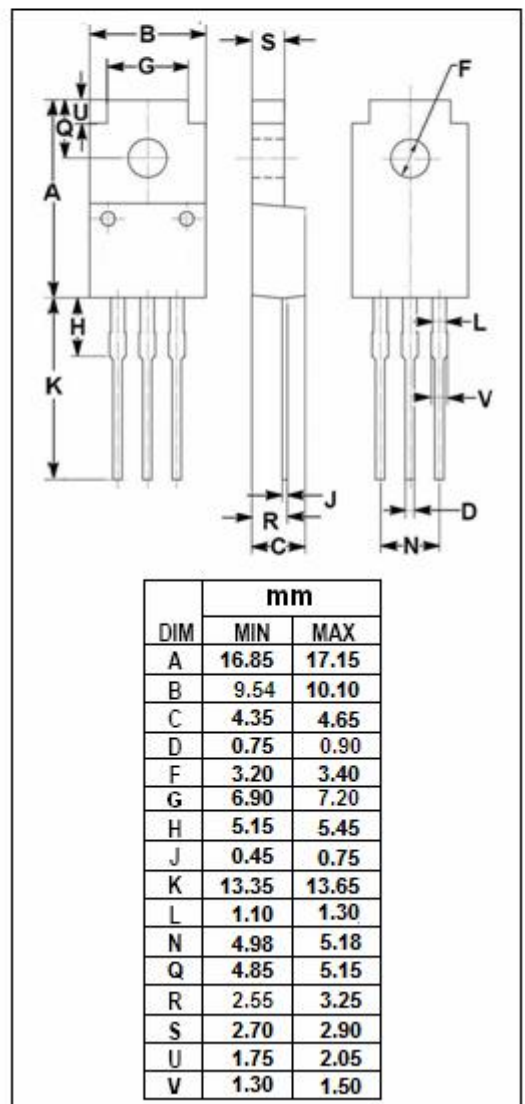
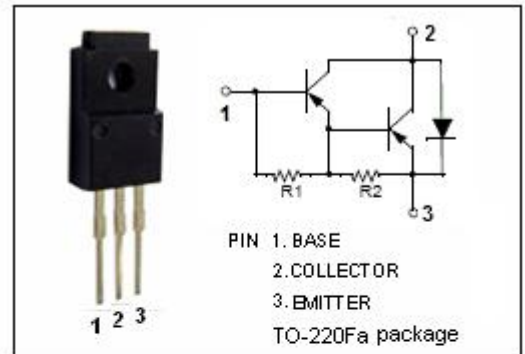
- Designed for use in audio amplifier output stages , general purpose amplifier and high speed switching applications

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	-60	V
V_{CEO}	Collector-Emitter Voltage	-60	V
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 $T_C=25^\circ\text{C}$	90	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	1.39	$^\circ\text{C/W}$
$R_{th j-a}$	Thermal Resistance, Junction to Ambient	70	$^\circ\text{C/W}$



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

Switching Times

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

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