

isc Silicon NPN Darlington Power Transistor

BDT61AF

DESCRIPTION

- High DC Current Gain
- Low Saturation Voltage
- Complement to Type BDT60AF
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

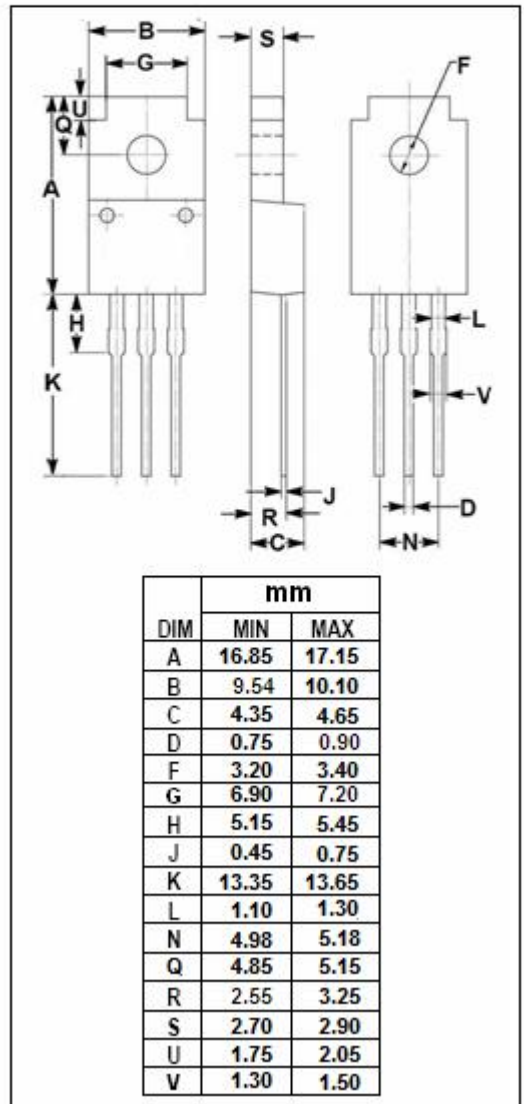
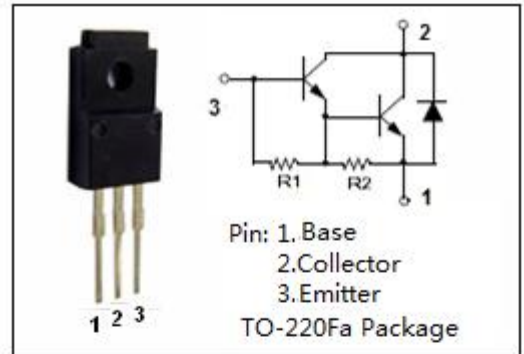
- Designed for use as complementary AF push-pull output stage applications

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	80	V
V_{CEO}	Collector-Emitter Voltage	80	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current-Continuous	4	A
I_{CP}	Collector Current-Peak	6	A
I_B	Base Current-Continuous	0.1	A
P_C	Collector Power Dissipation @ $T_a=25^{\circ}\text{C}$	17	W
	Collector Power Dissipation @ $T_c=25^{\circ}\text{C}$	25	
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	$^{\circ}\text{C/W}$
$R_{th\ j-a}$	Thermal Resistance, Junction to Ambient	7.35	$^{\circ}\text{C/W}$



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ELECTRICAL CHARACTERISTICS

 $T_C=25^{\circ}\text{C}$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CEO(SUS)}$	Collector-Emitter Breakdown Voltage	$I_C=30\text{mA}; I_B=0$	80			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=1.5\text{A}; I_B=6\text{mA}$			2.5	V
$V_{BE(on)}$	Base-Emitter On Voltage	$I_C=4\text{A}; V_{CE}=3\text{V}$			2.5	V
I_{CBO}	Collector Cutoff Current	$V_{CB}=30\text{V}; I_E=0$			0.2	mA
		$V_{CB}=40\text{V}; I_E=0; T_C=150^{\circ}\text{C}$			1.0	
I_{CEO}	Collector Cutoff Current	$V_{CE}=40\text{V}; I_B=0$			0.2	mA
I_{EBO}	Emitter Cutoff Current	$V_{EB}=5\text{V}; I_C=0$			5	mA
h_{FE-1}	DC Current Gain	$I_C=0.5\text{A}; V_{CE}=3\text{V}$		2000		
h_{FE-2}	DC Current Gain	$I_C=1.5\text{A}; V_{CE}=3\text{V}$	750			
h_{FE-3}	DC Current Gain	$I_C=4\text{A}; V_{CE}=3\text{V}$		1000		

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