

isc Silicon NPN Darlington Power Transistor

BDX53F

DESCRIPTION

- Collector Current $-I_C = 8A$
- High DC Current Gain-
: $h_{FE} = 500(\text{Min}) @ I_C = 2A$
- Complement to Type BDX54F
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

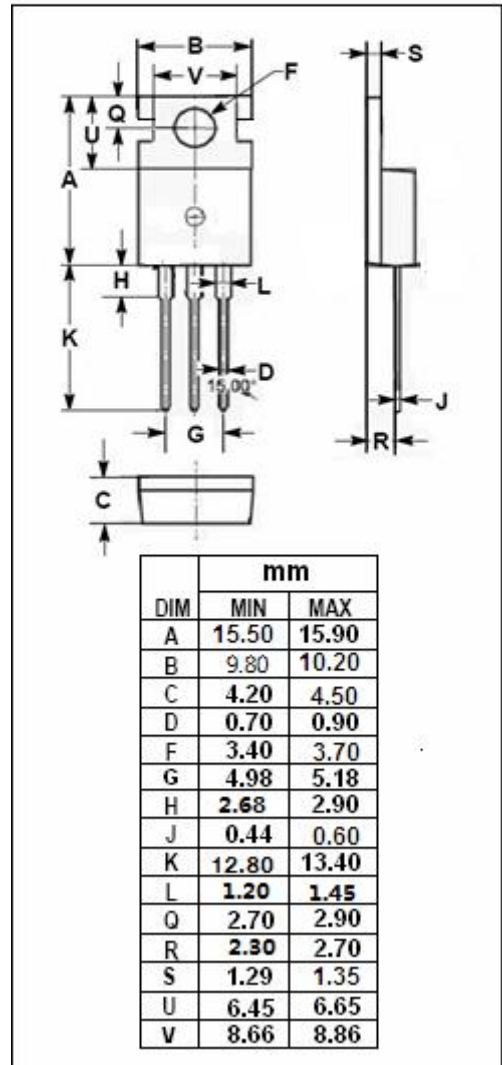
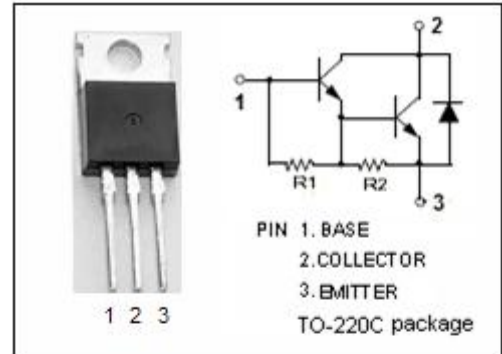
- Designed for use in power linear and switching applications.

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CER}	Collector-Emitter Voltage	160	V
V_{CEO}	Collector-Emitter Voltage	160	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current-Continuous	8	A
I_{CM}	Collector Current-Peak	12	A
I_B	Base Current-Continuous	0.2	A
P_C	Collector Power Dissipation @ $T_C = 25^\circ\text{C}$	60	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	2.08	$^\circ\text{C/W}$
$R_{th\ j-a}$	Thermal Resistance, Junction to Ambient	70	$^\circ\text{C/W}$



isc Silicon NPN Darlington Power Transistor**BDX53F****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 = 50mA ; I _B = 0	160			V
V _{CE(sat)}	Collector-Emitter Saturation Voltage	I _C = 2A; I _B = 10mA			2.0	V
V _{BE(sat)}	Base-Emitter Saturation Voltage	I _C = 2A; I _B = 10mA			2.5	V
V _{ECF}	C-E Diode Forward Voltage	I _F = 2A			2.5	V
I _{CEO}	Collector Cutoff Current	V _{CE} = 80V; I _B = 0			0.5	mA
I _{CBO}	Collector Cutoff Current	V _{CB} = 160V; I _E = 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 = 2A ; V _{CE} = 5V	500			
h _{FE-2}	DC Current Gain	I _C = 3A ; V _{CE} = 5V	150			

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