

isc Silicon NPN Darlington Power Transistor

BDX87C

DESCRIPTION

- High DC Current Gain-
: $h_{FE} = 750(\text{Min}) @ I_C = 6A$
- Collector-Emitter Sustaining Voltage-
: $V_{CEO(\text{SUS})} = 100V(\text{Min})$
- Complement to Type BDX88C
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

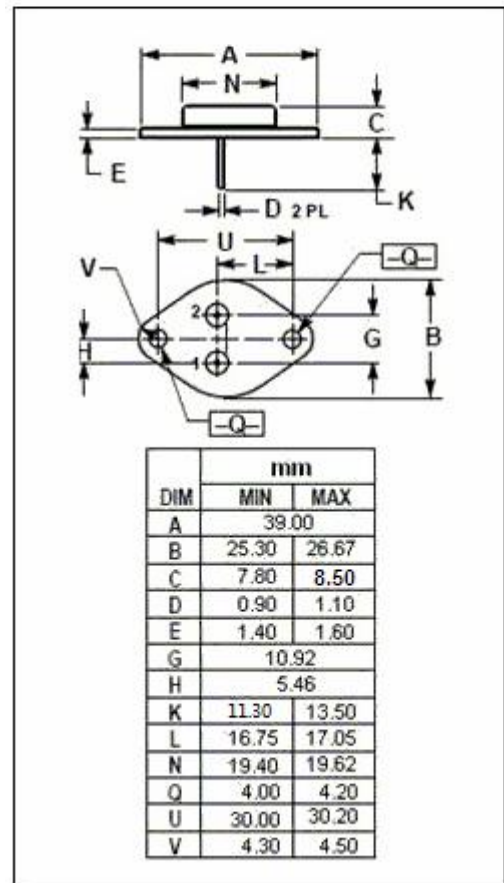
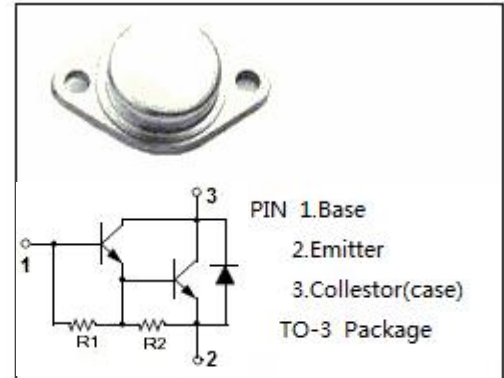
- Designed for use in power linear and switching applications.

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	100	V
V_{CEO}	Collector-Emitter Voltage	100	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current-Continuous	12	A
I_{CM}	Collector Current-Peak	18	A
I_B	Base Current	200	mA
P_C	Collector Power Dissipation @ $T_C = 25^\circ\text{C}$	120	W
T_J	Junction Temperature	200	$^\circ\text{C}$
T_{stg}	Storage Temperature Range	-65~200	$^\circ\text{C}$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th j-c}$	Thermal Resistance, Junction to Case	1.45	$^\circ\text{C/W}$



isc Silicon NPN Darlington Power Transistor**BDX87C****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 = 100mA; I _B = 0	100			V
V _{CE(sat)-1} ☆	Collector-Emitter Saturation Voltage	I _C = 6A; I _B = 24mA			2.0	V
V _{CE(sat)-2} ☆	Collector-Emitter Saturation Voltage	I _C = 12A; I _B = 120mA			3.0	V
V _{BE(sat)} ☆	Base-Emitter Saturation Voltage	I _C = 12A; I _B = 120mA			4.0	V
V _{BE(on)} ☆	Base-Emitter On Voltage	I _C = 6A; V _{CE} = 3V			2.8	V
I _{CBO}	Collector Cutoff Current	V _{CB} = 100V; I _E = 0 V _{CB} = 100V; I _E = 0; T _C = 150°C			0.5 5.0	mA
I _{CEO}	Collector Cutoff Current	V _{CE} = 50V; I _B = 0			1.0	mA
I _{EBO}	Emitter Cutoff Current	V _{EB} = 5V; I _C = 0			2.0	mA
h _{FE-1} ☆	DC Current Gain	I _C = 5A; V _{CE} = 3V	1000			
h _{FE-2} ☆	DC Current Gain	I _C = 6A; V _{CE} = 3V	750		18000	
h _{FE-3} ☆	DC Current Gain	I _C = 12A; V _{CE} = 3V	100			

☆ Pulsed: Pulse duration = 300 us, duty cycle = 1.5 %

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