

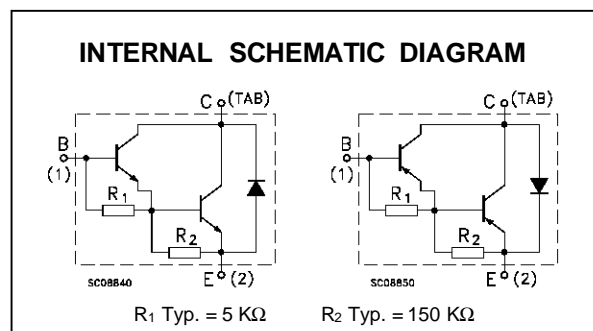
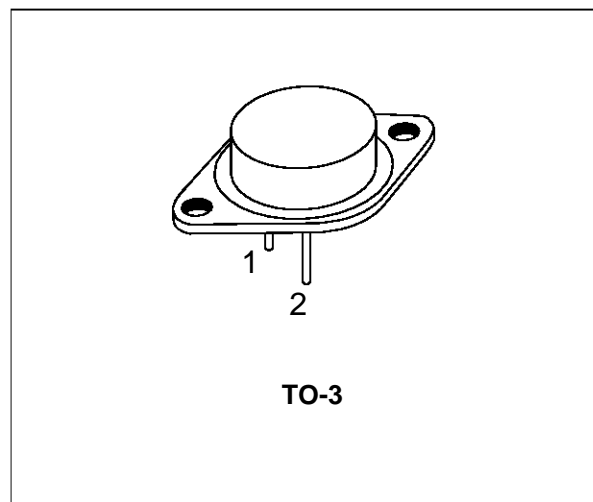
COMPLEMENTARY SILICON POWER DARLINGTON TRANSISTORS

- BDX87C AND BDX88C ARE SGS-THOMSON PREFERRED SALESTYPES

DESCRIPTION

The BDX87B, and BDX87C are silicon epitaxial-base NPN power transistors in monolithic Darlington configuration and are mounted in Jedec TO-3 metal case. They are intended for use in power linear and switching applications.

The complementary PNP types are the BDX88B and BDX88C respectively.



ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value			Unit
		NPN	BDX87B	BDX87C	
		PNP	BDX88B	BDX88C	
V _{CBO}	Collector-base Voltage (I _E = 0)		80	100	V
V _{CEO}	Collector-emitter Voltage (I _B = 0)		80	100	V
V _{EBO}	Emitter-base Voltage (I _C = 0)			5	V
I _C	Collector Current			12	A
I _{CM}	Collector Peak Current (repetitive)			18	A
I _B	Base Current			0.2	A
P _{tot}	Total Dissipation at T _c ≤ 25 °C			120	W
T _{stg}	Storage Temperature			-65 to 200	°C
T _j	Max. Operating Junction Temperature			200	°C

BDX87B/87C-BDX88B/88C

THERMAL DATA

$R_{thj-case}$	Thermal Resistance Junction-case	Max	1.45	$^{\circ}\text{C}/\text{W}$
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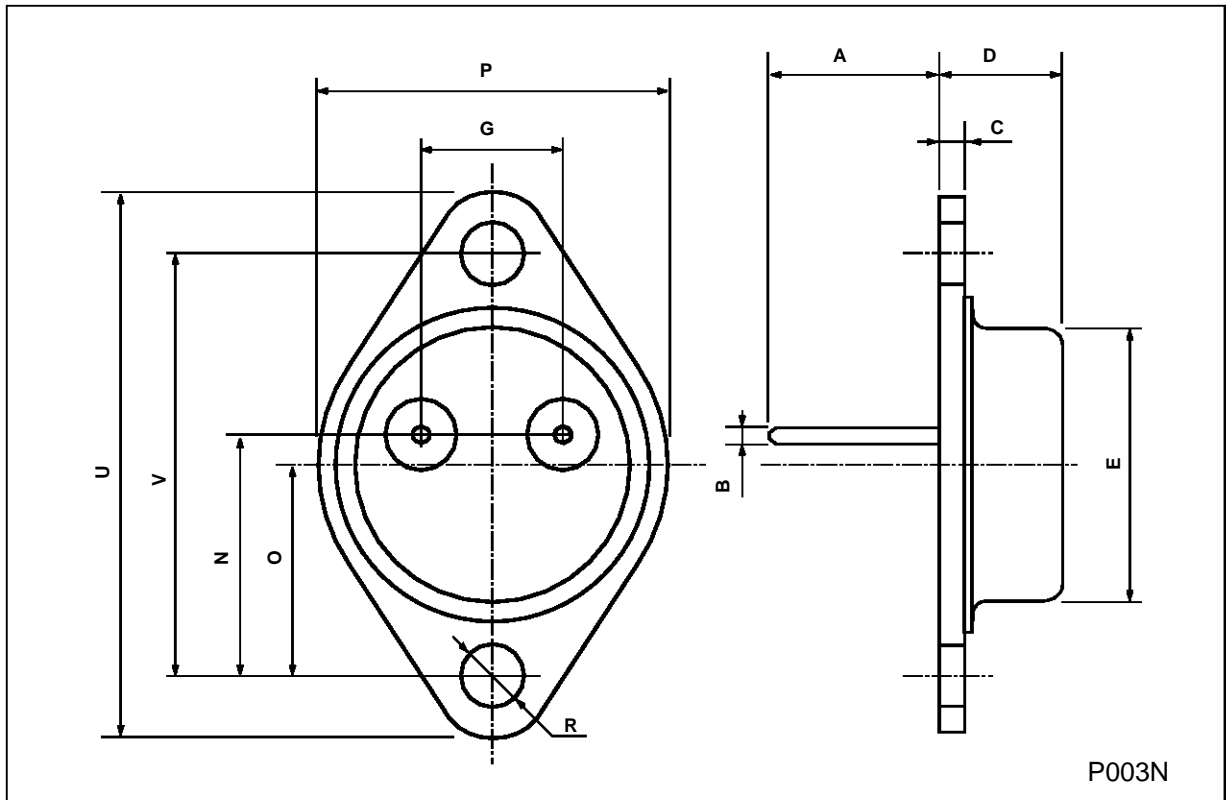
ELECTRICAL CHARACTERISTICS ($T_{case} = 25^{\circ}\text{C}$ unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I_{CBO}	Collector Cut-off Current ($I_E = 0$)	for BDX87B/88B $V_{CB} = 80\text{ V}$ for BDX87C/88C $V_{CB} = 100\text{ V}$ $T_{case} = 150^{\circ}\text{C}$ for BDX87B/88B $V_{CB} = 80\text{ V}$ for BDX87C/88C $V_{CB} = 100\text{ V}$			0.5 0.5 5 5	mA mA mA mA
I_{CEO}	Collector Cut-off Current ($I_B = 0$)	for BDX87B/88B $V_{CB} = 40\text{ V}$ for BDX87C/88C $V_{CB} = 50\text{ V}$			1 1 1	mA mA mA
I_{EBO}	Emitter Cut-off Current ($I_C = 0$)	$V_{EB} = 5\text{ V}$			1	mA
$V_{CE(sus)}^*$	Collector-Emitter Sustaining Voltage ($I_B = 0$)	$I_C = 100\text{ mA}$ for BDX87B/88B for BDX87C/88C	80 100			V V
$V_{CE(sat)}^*$	Collector-emitter Saturation Voltage	$I_C = 6\text{ A}$ $I_B = 24\text{ mA}$ $I_C = 12\text{ A}$ $I_B = 120\text{ mA}$			2 3	V V
$V_{BE(sat)}^*$	Base-emitter Saturation Voltage	$I_C = 12\text{ A}$ $I_B = 120\text{ mA}$			4	V
V_{BE}^*	Base-emitter Voltage	$I_C = 6\text{ A}$ $V_{CE} = 3\text{ V}$			2.8	V
h_{FE}^*	DC Current Gain	$I_C = 5\text{ A}$ $V_{CE} = 3\text{ V}$ $I_C = 6\text{ A}$ $V_{CE} = 3\text{ V}$ $I_C = 12\text{ A}$ $V_{CE} = 3\text{ V}$	1000 750 100		18000	
V_F^*	Parallel-diode Forward Voltage	$I_F = 3\text{ A}$ $I_F = 8\text{ A}$		2.5	1.8	V V
h_{fe}^*	Small Signal Current Gain	$I_C = 5\text{ A}$ $V_{CE} = 3\text{ V}$ $f = 1\text{ MHz}$		25		

* Pulsed: Pulse duration = 300 μs , duty cycle 1.5 %
For PNP types voltage and current values are negative.

TO-3 (H) MECHANICAL DATA

DIM.	mm			inch		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
A		11.7			0.460	
B	0.96		1.10	0.037		0.043
C			1.70			0.066
D			8.7			0.342
E			20.0			0.787
G		10.9			0.429	
N		16.9			0.665	
P			26.2			1.031
R	3.88		4.09	0.152		0.161
U			39.50			1.555
V		30.10			1.185	



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