

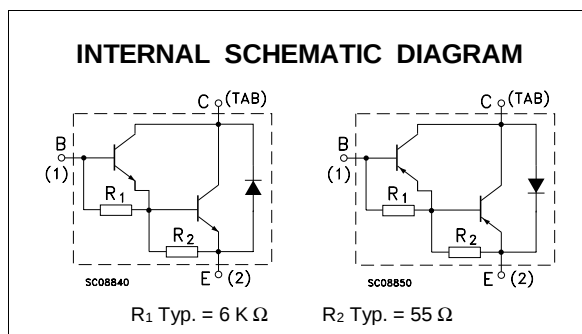
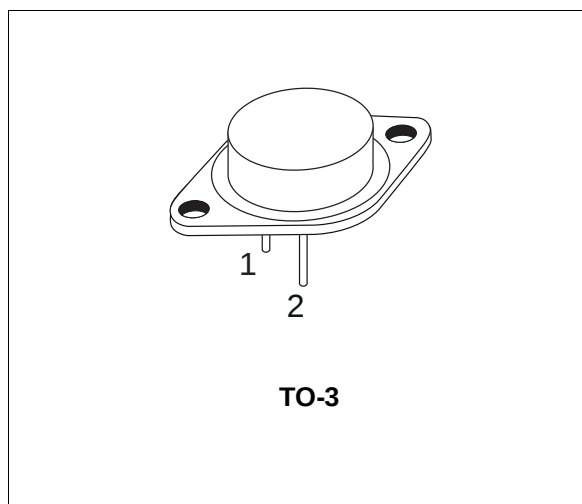
COMPLEMENTARY SILICON POWER DARLINGTON TRANSISTORS

■ SGS-THOMSON PREFERRED SALESTYPES

DESCRIPTION

The BDX87C is a 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 is the BDX88C.



ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter		Value	Unit
		NPN	BDX87C	
		PNP	BDX88C	
V_{CBO}	Collector-base Voltage ($I_E = 0$)		100	V
V_{CEO}	Collector-emitter Voltage ($I_B = 0$)		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 $T_c \leq 25^\circ\text{C}$		120	W
T_{stg}	Storage Temperature		-65 to 200	$^\circ\text{C}$
T_j	Max. Operating Junction Temperature		200	$^\circ\text{C}$

BDX87C-BDX88C

THERMAL DATA

R _{thj-case}	Thermal Resistance Junction-case	Max	1.45	°C/W
-----------------------	----------------------------------	-----	------	------

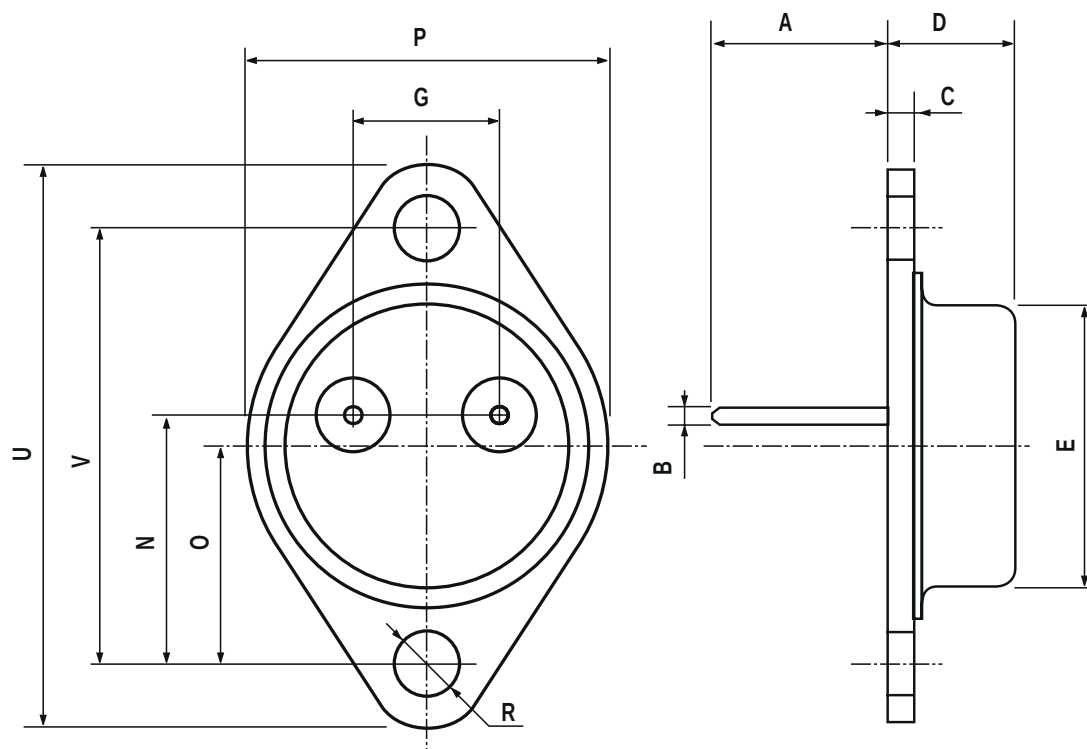
ELECTRICAL CHARACTERISTICS (T_{case} = 25 °C unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I _{CBO}	Collector Cut-off Current (I _E = 0)	V _{CB} = 100 V V _{CB} = 100 V T _{case} = 150 °C			0.5 5	mA mA
I _{CEO}	Collector Cut-off Current (I _B = 0)	V _{CB} = 50 V			1	mA
I _{EBO}	Emitter Cut-off Current (I _C = 0)	V _{EB} = 5 V			1	mA
V _{CEO(sus)} *	Collector-Emitter Sustaining Voltage (I _B = 0)	I _C = 100 mA	100			V
V _{CE(sat)} *	Collector-emitter Saturation Voltage	I _C = 6 A I _B = 24 mA I _C = 12 A I _B = 120 mA			2 3	V V
V _{BE(sat)} *	Base-emitter Saturation Voltage	I _C = 12 A I _B = 120 mA			4	V
V _{BE} *	Base-emitter Voltage	I _C = 6 A V _{CE} = 3 V			2.8	V
h _{FE} *	DC Current Gain	I _C = 5 A V _{CE} = 3 V I _C = 6 A V _{CE} = 3 V I _C = 12 A V _{CE} = 3 V	1000 750 100		18000	
V _F *	Parallel-diode Forward Voltage	I _F = 3 A I _F = 8 A		2.5	1.8	V V
h _{fe} *	Small Signal Current Gain	I _C = 5 A V _{CE} = 3 V f = 1MHz		25		

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

TO-3 MECHANICAL DATA

DIM.	mm			inch		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
A	11.00		13.10	0.433		0.516
B	0.97		1.15	0.038		0.045
C	1.50		1.65	0.059		0.065
D	8.32		8.92	0.327		0.351
E	19.00		20.00	0.748		0.787
G	10.70		11.10	0.421		0.437
N	16.50		17.20	0.649		0.677
P	25.00		26.00	0.984		1.023
R	4.00		4.09	0.157		0.161
U	38.50		39.30	1.515		1.547
V	30.00		30.30	1.187		1.193



P003F

Information furnished is believed to be accurate and reliable. However, SGS-THOMSON Microelectronics assumes no responsibility for the consequences of use of such information nor for any infringement of patents or other rights of third parties which may result from its use. No license is granted by implication or otherwise under any patent or patent rights of SGS-THOMSON Microelectronics. Specifications mentioned in this publication are subject to change without notice. This publication supersedes and replaces all information previously supplied. SGS-THOMSON Microelectronics products are not authorized for use as critical components in life support devices or systems without express written approval of SGS-THOMSON Microelectronics.

© 1997 SGS-THOMSON Microelectronics - Printed in Italy - All Rights Reserved

SGS-THOMSON Microelectronics GROUP OF COMPANIES
Australia - Brazil - Canada - China - France - Germany - Hong Kong - Italy - Japan - Korea - Malaysia - Malta - Morocco - The Netherlands -
Singapore - Spain - Sweden - Switzerland - Taiwan - Thailand - United Kingdom - U.S.A
...