

SILICON NPN SWITCHING TRANSISTORS

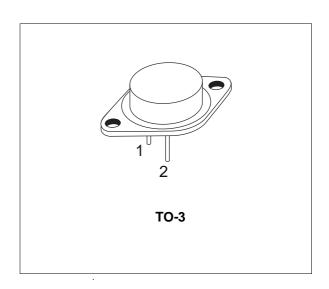
- SGS-THOMSON PREFERRED SALESTYPES
- COMPLEMENTARY PNP NPN DEVICES
- HIGH CURRENT CAPABILITY
- FAST SWITCHING SPEED
- HIGH DC CURRENT GAIN

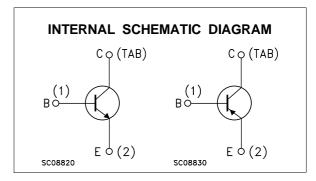
APPLICATIONS

 LINEAR AND SWITCHING INDUSTRIAL EQUIPMENT

DESCRIPTION

The BDW51C is a silicon epitaxial-base NPN transistor in Jedec TO-3 metal case. It is intended for use in power linear and switching applications. The complementary PNP is the BDW52C.





ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter NPN		Value	Unit	
			BDW51C		
		PNP	BDW52C		
Vсво	Collector-Base Voltage (I _E = 0)		100	V	
V _{CES}	Collector-Emitter Voltage (V _{BE} = 0)		100	V	
Vceo	Collector-Emitter Voltage (I _B = 0)		100	V	
V _{EBO}	Emitter-Base Voltage (I _C = 0)		5	V	
Ic	Collector Current		15	А	
I _{CM}	Collector Peak Current (repetitive)		20	А	
lΒ	Base Current		7	А	
P _{tot}	Total Dissipation at T _c = 25 °C		125	W	
T _{stg}	Storage Temperature		-65 to 200	°C	
Tj	Max. Operating Junction Temperature		200	°C	

For PNP types voltage and current values are negative.

July 1997 1/4

BDW51C/BDW52C

THERMAL DATA

R _{thj-case}	Thermal Resistance Junction-case	Max	1.4	°C/W	
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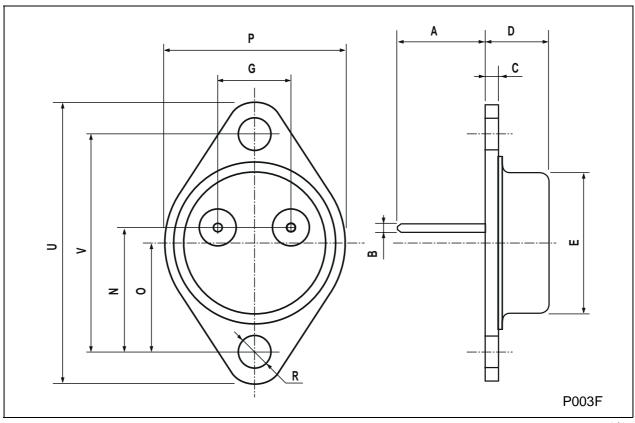
ELECTRICAL CHARACTERISTICS (T_{case} = 25 °C unless otherwise specified)

Symbol	Parameter	Test Conditions		Min.	Тур.	Max.	Unit
Ісво	Collector Cut-off Current (I _E = 0)	V _{CB} = 100 V V _{CB} = 100 V	T _{case} = 150 °C			500 5	μA mA
ICEO	Collector Cut-off Current (I _B = 0)	V _{CE} = 50 V				1	mA
I _{EBO}	Emitter Cut-off Current (I _C = 0)	V _{EB} = 5 V				2	mA
V _{CEO(sus)} *	Collector-Emitter Sustaining Voltage	I _C = 100 mA		100			V
V _{CE(sat)} *	Collector-Emitter Saturation Voltage	I _C = 5 A I _C = 10 A	$I_B = 0.5 A$ $I_B = 2.5 A$			1 3	V
V _{BE(sat)} *	Base-Emitter Saturation Voltage	I _C = 10 A	I _B = 2.5 A			2.5	V V
V _{BE} *	Base-Emitter Voltage	I _C = 5 A	V _{CE} = 4 V			1.5	V
h _{FE} *	DC Current Gain	I _C = 5 A I _C = 10 A	V _{CE} = 4 V V _{CE} = 4 V	20 5		150	
f⊤	Transition frequency	I _C = 1 A V _{CE}	= 4 V	3			MHz

^{*} 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			
2	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	
А	11.00		13.10	0.433		0.516	
В	0.97		1.15	0.038		0.045	
С	1.50		1.65	0.059		0.065	
D	8.32		8.92	0.327		0.351	
Е	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	
Р	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	



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