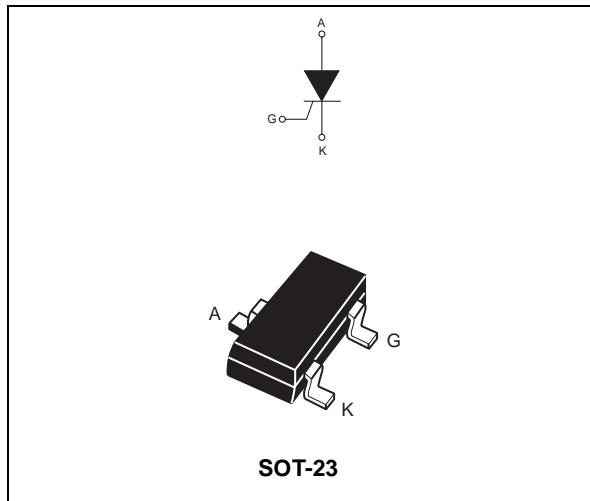


SENSITIVE
0.25A SCRs
MAIN FEATURES:

Symbol	Value	Unit
$I_{T(RMS)}$	0.25	A
V_{DRM}/V_{RRM}	200	V
I_{GT}	200	μA


DESCRIPTION

Thanks to highly sensitive triggering levels, the P0102BL SCR is suitable for all applications where the available gate current is limited such as stand-by mode power supplies, smoke and alarm detectors...

Available in SOT-23, it provides optimized space saving on high density printed circuit boards.

ABSOLUTE RATINGS (limiting values)

Symbol	Parameter		Value	Unit
$I_{T(RMS)}$	RMS on-state current (180° conduction angle)	$T_{amb} = 30^\circ C$	0.25	A
$I_{T(AV)}$	Average on-state current (180° conduction angle)	$T_{amb} = 30^\circ C$	0.17	A
I_{TSM}	Non repetitive surge peak on-state current	$tp = 8.3 \text{ ms}$	7	A
		$tp = 10 \text{ ms}$		
I^2t	I^2t Value for fusing	$tp = 10 \text{ ms}$	$T_j = 25^\circ C$	A^2s
dl/dt	Critical rate of rise of on-state current $I_G = 2 \times I_{GT}, tr \leq 100\text{ns}$	$F = 60 \text{ Hz}$	$T_j = 125^\circ C$	$A/\mu s$
I_{GM}	Peak gate current	$tp = 20 \mu s$	$T_j = 125^\circ C$	A
$P_{G(AV)}$	Average gate power dissipation		$T_j = 125^\circ C$	W
T_{stg} T_j	Storage junction temperature range Operating junction temperature range		- 40 to + 150 - 40 to + 125	°C

ELECTRICAL CHARACTERISTICS (T_j = 25°C, unless otherwise specified)

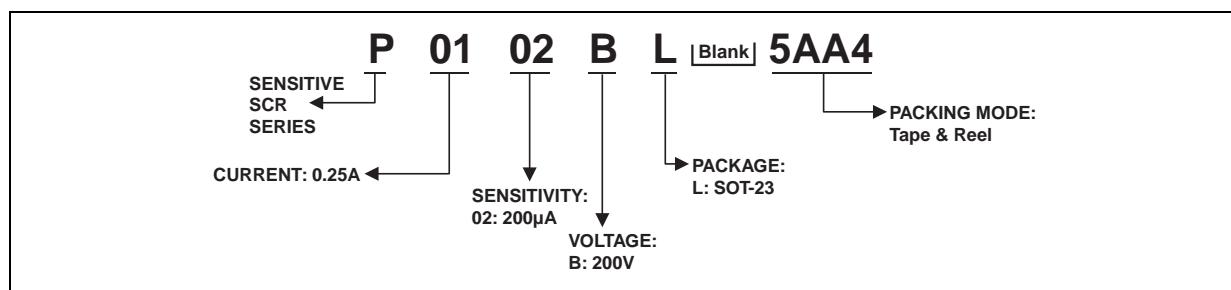
Symbol	Test Conditions		P0102BL	Unit	
I _{GT}	V _D = 12 V R _L = 140 Ω	MAX.	200	μA	
V _{GT}		MAX.	0.8	V	
V _{GD}	V _D = V _{DRM} R _L = 3.3 kΩ R _{GK} = 1 kΩ	T _j = 125°C	MIN.	0.1	V
V _{RG}	I _{RG} = 10 μA		MIN.	8	V
I _H	I _T = 50 mA R _{GK} = 1kΩ		MAX.	6	mA
I _L	I _G = 1 mA R _{GK} = 1kΩ		MAX.	7	mA
dV/dt	V _D = 67 % V _{DRM} R _{GK} = 1kΩ	T _j = 125°C	MIN.	200	V/μs
V _{TM}	I _{TM} = 0.4 A tp = 380 μs	T _j = 25°C	MAX.	1.7	V
V _{t0}	Threshold voltage	T _j = 125°C	MAX.	1.0	V
R _d	Dynamic resistance	T _j = 125°C	MAX.	1000	mΩ
I _{DRM}	V _{DRM} = V _{RRM}	T _j = 25°C	MAX.	1	μA
I _{RRM}		T _j = 125°C		100	

THERMAL RESISTANCES

Symbol	Parameter	Value	Unit
R _{th(j-a)}	Junction to ambient (mounted on FR4 with recommended pad layout)	400	°C/W

PRODUCT SELECTOR

Part Number	Voltage	Sensitivity	Package
P0102BL	200 V	200 μA	SOT-23

ORDERING INFORMATION**OTHER INFORMATION**

Part Number	Marking	Weight	Base quantity	Packing mode
P0102BL	P2B	0.01 g	3000	Tape & reel

Fig. 1: Maximum average power dissipation versus average on-state current.

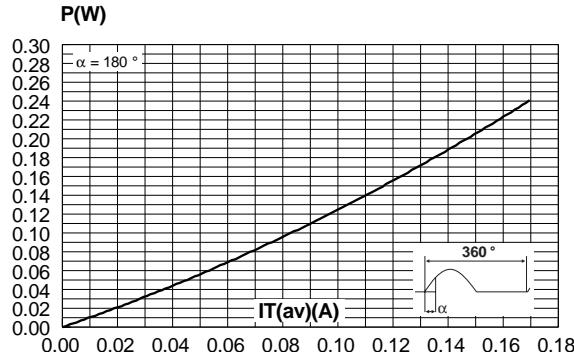


Fig. 3: Relative variation of thermal impedance junction to ambient versus pulse duration.

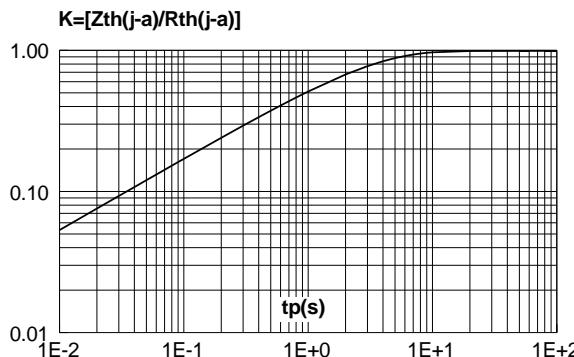


Fig. 5: Relative variation of holding current versus gate-cathode resistance (typical values).

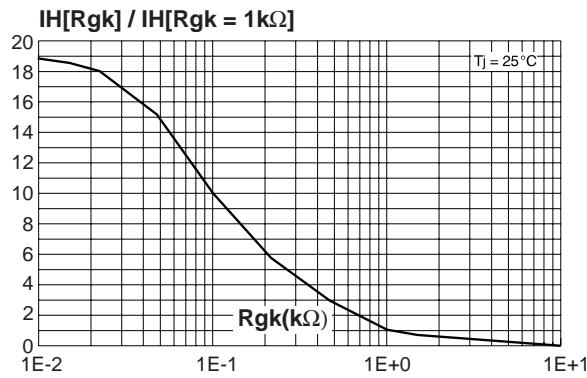


Fig. 2: Average and D.C. on-state current versus ambient temperature.

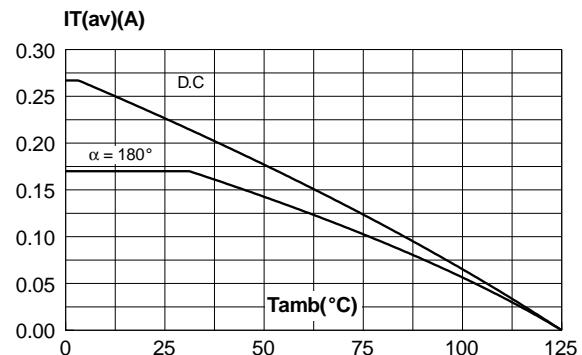


Fig. 4: Relative variation of gate trigger current, holding current and latching current versus junction temperature (typical values).

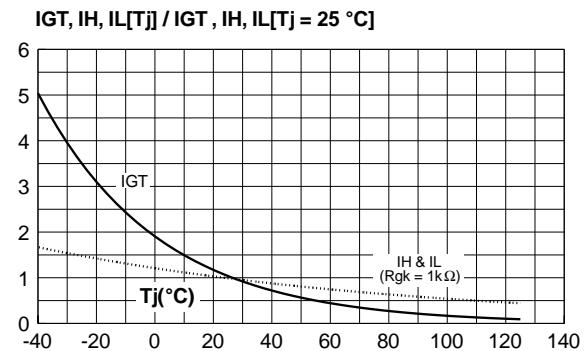


Fig. 6: Relative variation of dV/dt immunity versus gate-cathode resistance (typical values).

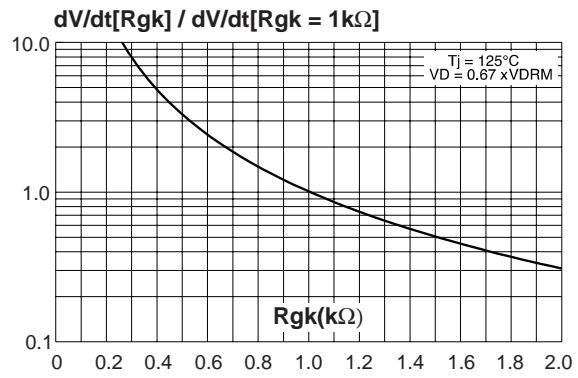


Fig. 7: Relative variation of dV/dt immunity versus gate-cathode capacitance (typical values).

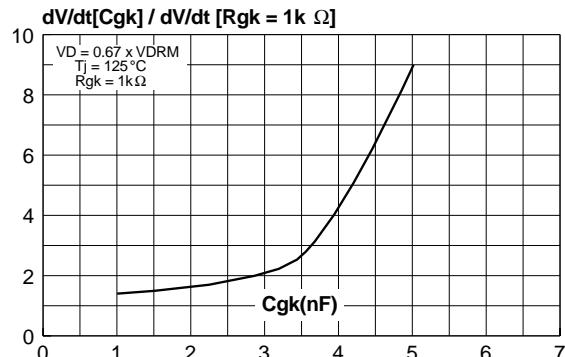


Fig. 9: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 10ms$, and corresponding value of I^2t .

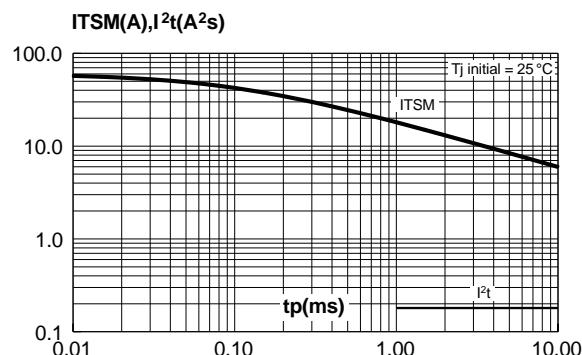


Fig. 11: Thermal resistance junction to ambient versus copper surface under tab (Epoxy printed circuit board FR4, copper thickness: 35 μm).

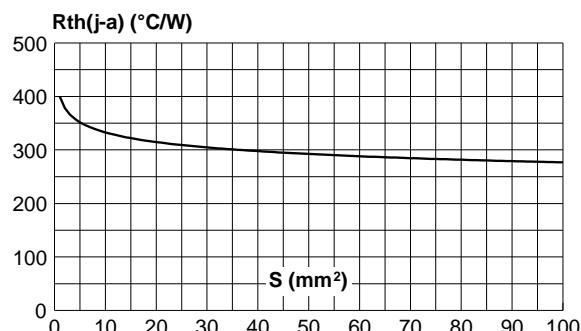


Fig. 8: Surge peak on-state current versus number of cycles.

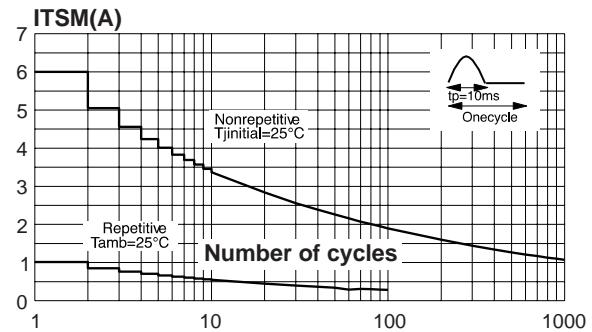
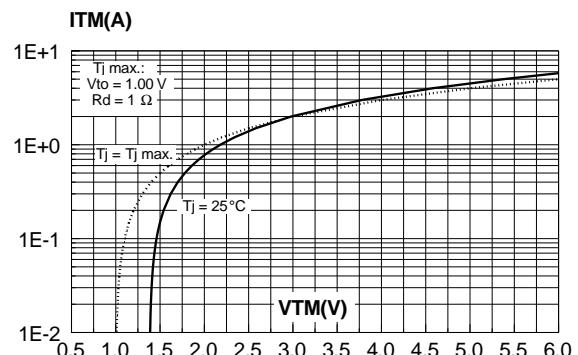


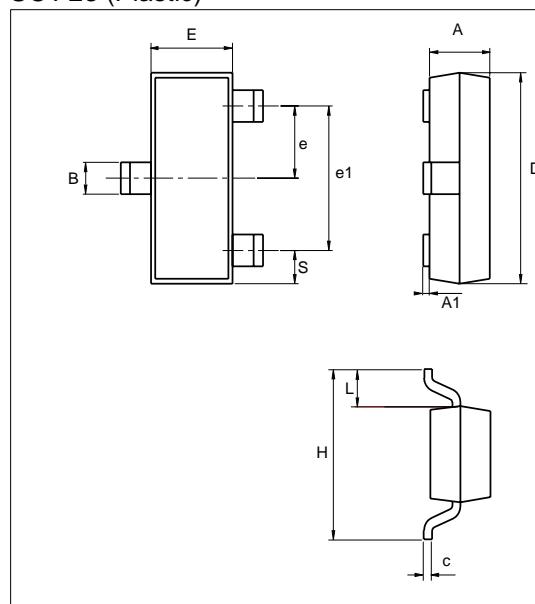
Fig. 10: On-state characteristics (maximum values).



P0102BL

PACKAGE MECHANICAL DATA

SOT-23 (Plastic)

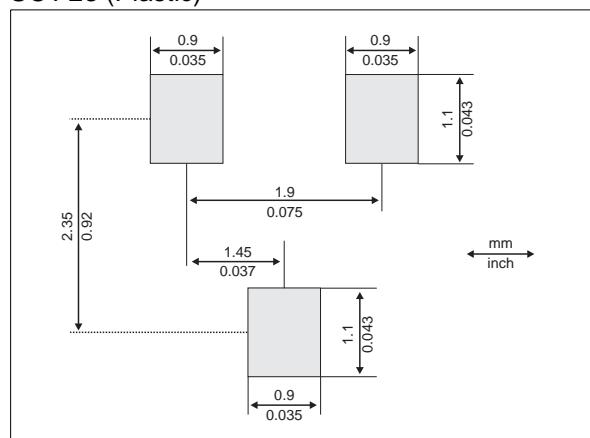


The technical drawing illustrates the physical dimensions of the SOT-23 package. It includes a top view showing lead spacing (E), lead height (e), lead thickness (s), and body width (B). A side view shows the total height (D), lead thickness (A1), and body height (H). A footprint diagram at the bottom provides the layout dimensions for PCB mounting, including lead pitch (0.9 mm / 0.035 inch), body width (1.9 mm / 0.075 inch), body length (1.45 mm / 0.057 inch), and body thickness (1.1 mm / 0.043 inch).

REF.	DIMENSIONS			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	0.89	1.4	0.035	0.055
A1	0	0.1	0	0.004
B	0.3	0.51	0.012	0.02
c	0.085	0.18	0.003	0.007
D	2.75	3.04	0.108	0.12
e	0.85	1.05	0.033	0.041
e1	1.7	2.1	0.067	0.083
E	1.2	1.6	0.047	0.063
H	2.1	2.75	0.083	0.108
L	0.6 typ.		0.024 typ.	
S	0.35	0.65	0.014	0.026

FOOTPRINT DIMENSIONS (in millimeters)

SOT-23 (Plastic)



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ООО "ЛайфЭлектроникс"

"LifeElectronics" LLC

ИНН 7805602321 КПП 780501001 Р/С 40702810122510004610 ФАКБ "АБСОЛЮТ БАНК" (ЗАО) в г.Санкт-Петербурге К/С 30101810900000000703 БИК 044030703

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С конца 2013 года компания активно расширяет линейку поставок компонентов по направлению коаксиальный кабель, кварцевые генераторы и конденсаторы (керамические, пленочные, электролитические), за счёт заключения дистрибуторских договоров

Мы предлагаем:

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- Специальные условия для постоянных клиентов.
- Подбор аналогов.
- Поставку компонентов в любых объемах, удовлетворяющих вашим потребностям.
- Приемлемые сроки поставки, возможна ускоренная поставка.
- Доставку товара в любую точку России и стран СНГ.
- Комплексную поставку.
- Работу по проектам и поставку образцов.
- Формирование склада под заказчика.
- Сертификаты соответствия на поставляемую продукцию (по желанию клиента).
- Тестирование поставляемой продукции.
- Поставку компонентов, требующих военную и космическую приемку.
- Входной контроль качества.
- Наличие сертификата ISO.

В составе нашей компании организован Конструкторский отдел, призванный помочь разработчикам, и инженерам.

Конструкторский отдел помогает осуществить:

- Регистрацию проекта у производителя компонентов.
- Техническую поддержку проекта.
- Защиту от снятия компонента с производства.
- Оценку стоимости проекта по компонентам.
- Изготовление тестовой платы монтаж и пусконаладочные работы.



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