SHANGHAI SINO-IC MICROELECTRONICS CO., LTD.

SEDA

LED Open-circuit protection device

DESCRIPTION:

SEDA is an open circuit protection device dedicated to LED circuit, so that when a LED lamp is damaged or open circuit, it will not affect the normal work of other LED; And at the same time with anti-overvoltage protection performance, so that the LED from instantaneous lightning damage.

SEDA has the characteristics of low conduction, rapid response, self-recovery after troubleshooting, which greatly improves the stability of LED circuit work.
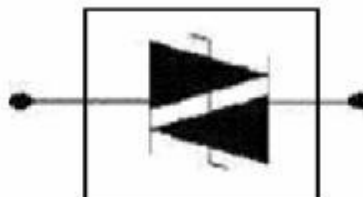
FEATURES:

◆ Bidirectional protection

◆ Breakdown voltage :6V

◆ Low leakage current: IDM=10uA max.

◆ Conduction current: IT=1A max.

Encapsulation form

SMA

ABSOLUTE MAXIMUM RATINGS(T_{amb}=25℃)

symbol	parameter	Value	Unit
Ts	Storage temperature range	-40 to +150	℃
Tj	Operating junction temperature range	260	℃

ELECTRICALCHARACTERISTICS

symbol	parameter
V_{DM}	Peak off-state voltage
V_{BO}	Switching voltage
I_{BO}	Switching current
I_{DM}	Off-state current
I_H	Holding current
C_O	Off-state capacitance
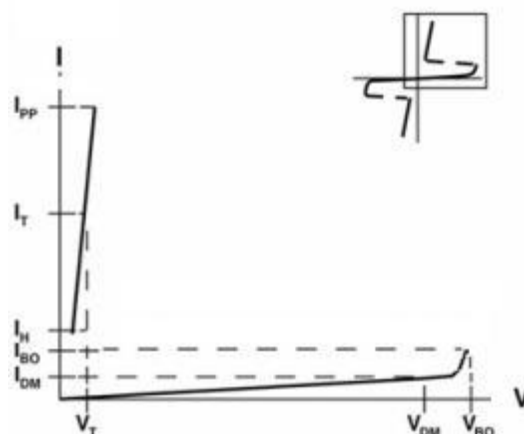
ELECTRICALCHARACTERISTICS (T$_{amb}$=25℃)

| Product name	I$_{DM}$ @ V$_{DM}$		V$_T$ @ It=350mA	I$_t$
	Max.		Max.	Max.
	ΡA	V	V	A
SEDA	10	6	1	1.0

Typical application circuit diagram
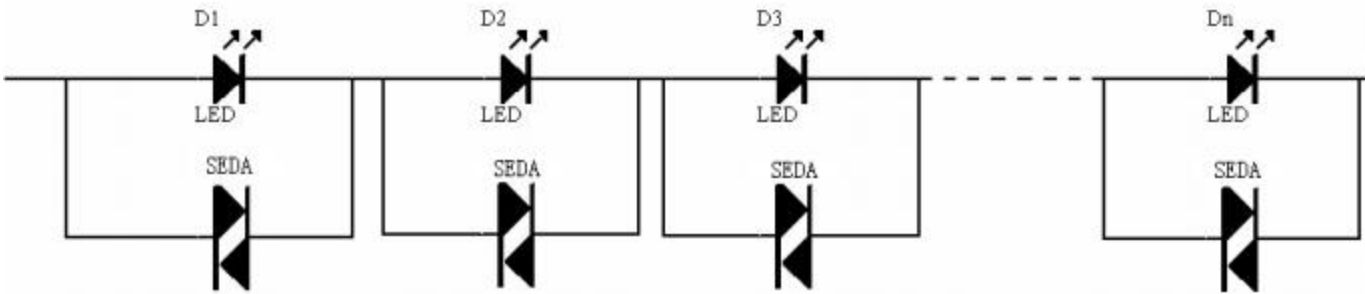
Application description

When LED is working normally:

When the D1 to Dn of LED lamp works normally, the working voltage is 3.3V to 3.5V, and the SEDA of the open circuit protection device is in the off state, which has no influence on the entire working circuit.

LED open circuit:

When one of the LED lights in the circuit is damaged for various reasons and is in an open circuit state, the open circuit protection device SEDA is immediately in a short circuit state, and the voltage at both ends is less than 1 volt (VT). This ensures that other leds can continue to work normally, thus improving system stability. When the open LED is replaced with a normal LED and the power is turned on again, the open circuit protection device SEDA automatically recovers to the off state.

SMA Package size:
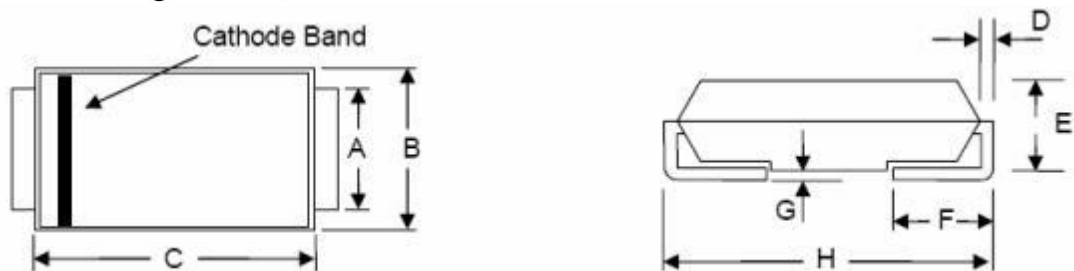
Item	Inches		Millimeters	
	Min.	**Max.**	**Min.**	**Max**
A	0.049	0.065	1.250	1.650
B	0.100	0.110	2.540	2.790
C	0.157	0.177	3.990	4.500
D	0.006	0.012	0.152	0.305
E	0.078	0.090	1.980	2.290
F	0.030	0.060	0.760	1.520
G	-	0.008	-	0.203
H	0.194	0.208	4.930	5.280