

**DPLED**

半导体放电管

版本号
201603-A**产品概述**

半导体放电管是一种过压保护器件，是利用晶闸管原理制成的，依靠PN结的击穿电流触发器件导通放电，可以流过很大的浪涌电流或脉冲电流。

产品特点

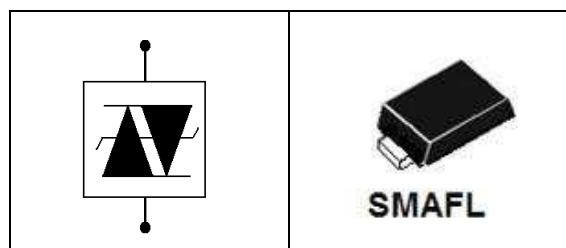
- 提供LED灯串中局部失效开路后的电流旁路
- 极快的开关反应速度
- 非旁路保护状态漏电极小
- 同时对LED提供静电/雷击感应/电压顺便保护

应用领域

DPLED系列产品是用于LED电路的开路保护器件，并联于LED灯使用。使得LED灯串中某一只LED灯出现损坏而开路时并不影响灯串中其他LED的正常工作；同时具有过压保护性能，使LED免受瞬态过电压而损坏。DPLED器件具有导通电压低、反应迅速、故障排除后可自恢复等特点，大大提高了LED电路工作的可靠性和稳定性。

特征参数

符号	额定值	单位
V_{DRM}	6	V
V_S	25	V
I_H	5	mA

封装: SMAFL**电参数**

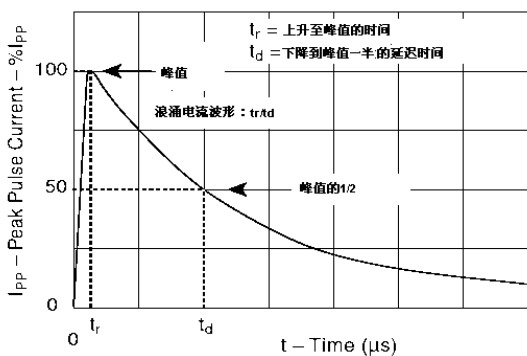
型号	V_{DRM} (V)	I_{DRM} (μA)	V_{BR} (V)		I_H (mA)	I_S (mA)	V_T (V)
	Min	Max	Min	Max	Min	Max	Max ($I_T=1A$)
DPLED6	6	5	6	15	5	100	1.5
DPLED9	9	5	9	18	5	100	1.5
DPLED13	13	5	13	26	5	100	1.5

DPLED6	并联于 1 只 LED，提供单只 LED 的开路保护
DPLED9	并联于 2 只 LED，提供两只 LED 的开路保护，有任何一支 LED 损坏，此两只均熄灭
DPLED13	并联于 3 只 LED，提供三只 LED 的开路保护，有任何一支 LED 损坏，此三只均熄灭

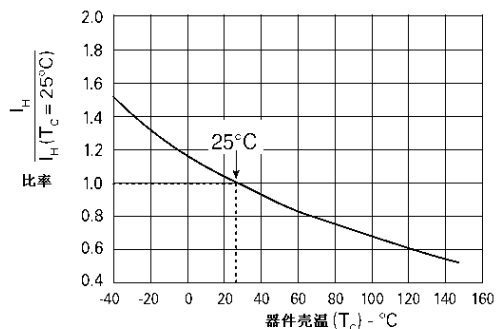
符号	参数	数值	单位
T_J	工作结温范围	-40~+150	°C
T_S	贮存温度范围	-65~+150	°C

典型特性曲线

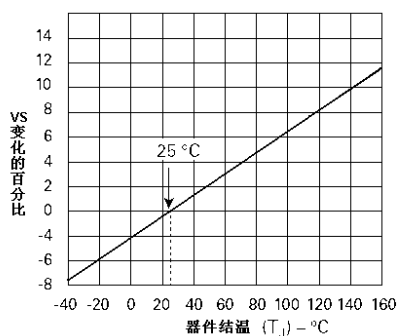
浪涌电流波形



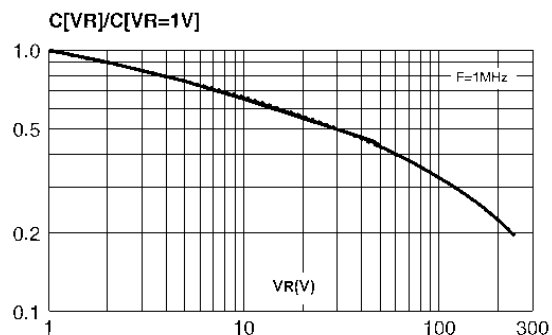
I_H 随温度变化率



V_S 随结温变化率

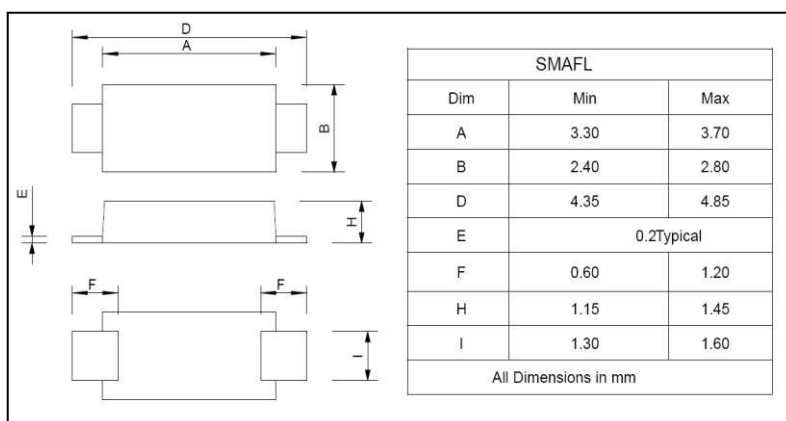


C_o 随偏置电压的变化率 (相对于 $V_R=1V$)



封装尺寸

SMAFL



**DPLED**

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版本号
201603-A**Description**

The SDT is a kind of overvoltage protection device. It is designed at the PNP structure. High pulse current can cross SDT.

Features and Benefits

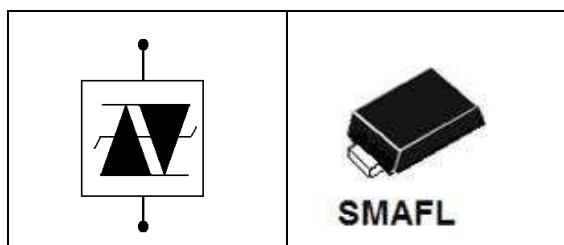
- provide the current bypass
- high switch speed
- low electric leakage
- provide overvoltage protection

Application field

DPLED series of products are designed to protect the LED circuit when the circuit is open. They are Parallel connection with the LED light. When one of the lights is broken, the other lights will keep working. At the same time, the DPLED device can protect the circuit from the overvoltage. The DPLED device has low on-state voltage and it won't degrade when being used.

Characteristic parameters

symbol	Rated value	unit
V_{DRM}	6	V
V_S	25	V
I_H	5	mA

Package : SMAFL**Electrical Parameters**

model	V_{DRM} (V)	I_{DRM} (μA)	V_{BR} (V)		I_H (mA)	I_S (mA)	V_T (V)
	Min	Max	Min	Max	Min	Max	Max ($I_T=1A$)
DPLED6	6	5	6	15	5	100	1.5
DPLED9	9	5	9	18	5	100	1.5
DPLED13	13	5	13	26	5	100	1.5

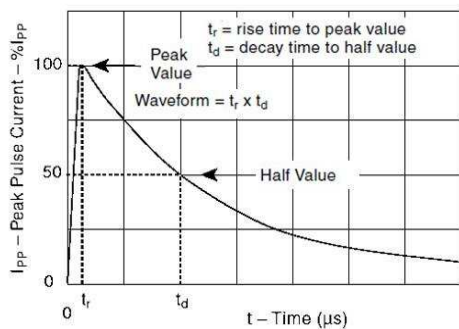
DPLED6	Parallel connect with one LED, protect one LED,
DPLED9	Parallel connect with one LEDs, protect two LED, when one of the two LEDs broken, both of them will put out
DPLED13	Parallel connect with one LEDs, protect three LED, when one of the three LEDs broken, all of the three will put out

Thermal Characteristics

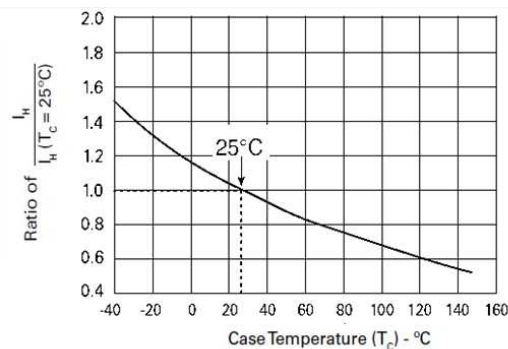
Symbol	Parameter	Value	Unit
T_J	Operating Junction Temperature	-40~+150	$^{\circ}\text{C}$
T_S	Storage Temperature Range	-65~+150	$^{\circ}\text{C}$

Typical characteristic curve

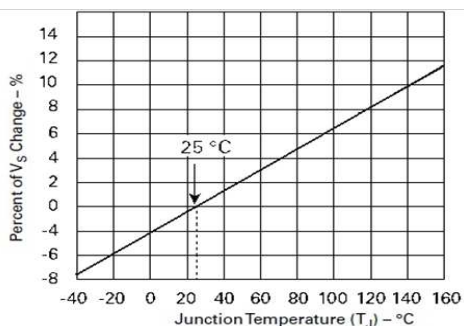
$T_r \times T_d$ Pulse waveform



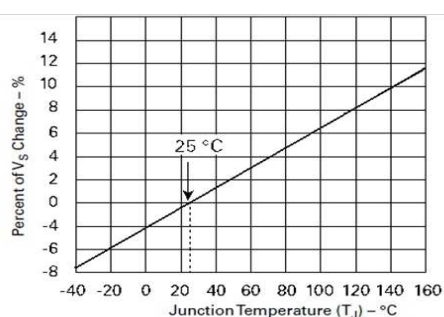
Normalized DC holding current vs. case temperature



V_s change vs. junction temperature



C_o change vs. bias voltage ($V_R=1V$)



Package size

SMAFL

