DP0640SC

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

●双向过电压电路保护　●抗浪涌能力强　●快速反应，可恢复
●漏电小，可靠性高　●低电容

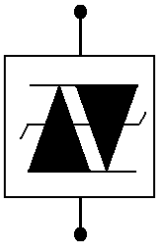
特征参数

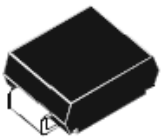
符 号	额定值	单 位
V_{DRM}	58	V
V_S	77	V
I_H	150	mA

应用领域

DP0640SC半导体放电管主要应用于通讯设备的过电压防护；家用电器，工控仪器的过电压防护。

封装：SMB(DO-214AA)





SMB
(DO-214AA)

电参数

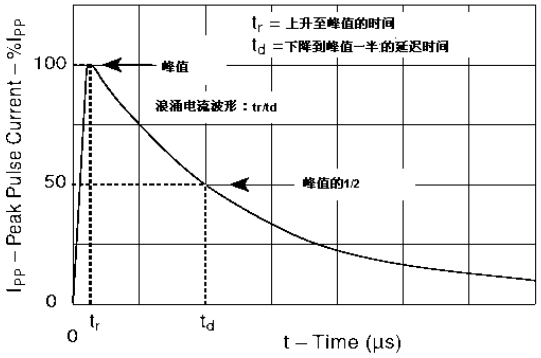
参数名称	符号	测试条件	规范值			单位
			最小	典型	最大	
不动作电压	V_{DRM}	I=5μA	58			V
不动作电流	I_{DRM}	V=V_{DRM}额定值			5	μA
跃变电压	V_S	100KV/s			77	V
跃变电流	I_S	100KV/s			800	mA
维持电流	I_H	10A，10/1000μs	150			mA
通态电压	V_T	I_T =2.2A			4	V
通态电流	I_T	额定值		2.2		A
极间电容	C_o	1MHz，2V偏置			150	pF
峰值浪涌电流	I_{PP}	10/1000μs	100			A
	V_{PP}	10/700μs（40Ω）	6000			V

■ 热特性

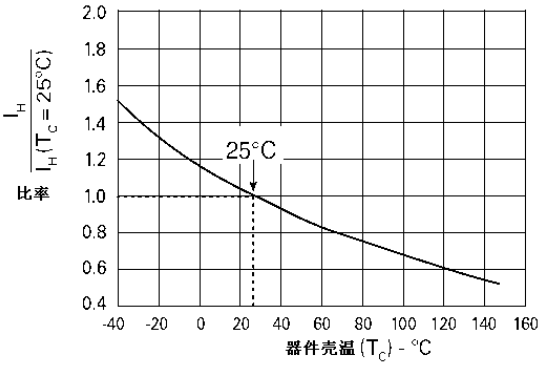
符号	参数	数值	单位
T_J	工作结温范围	-40～+150	℃
T_S	贮存温度范围	-65～+150	℃

■ 典型特性曲线

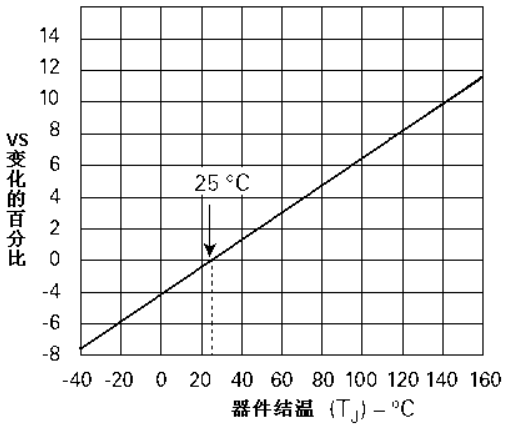
浪涌电流波形



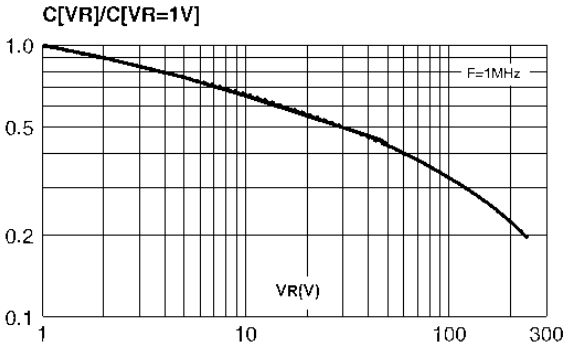
I_H 随温度变化率



V_S随结温变化率



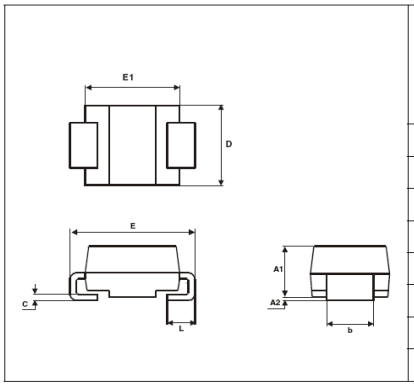
Co随偏置电压的变化率（相对于V_R=1V）



封装尺寸

SMB

(DO-214AA)



Ref.	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A1	1.90	2.45	0.075	0.096
A2	0.05	0.20	0.002	0.008
b	1.95	2.20	0.077	0.087
c	0.15	0.40	0.006	0.016
E	5.10	5.60	0.201	0.220
E1	4.05	4.60	0.159	0.181
D	3.30	3.95	0.130	0.156
L	0.75	1.50	0.030	0.059

命名规则

D P 3500 S C

Jiangsu dongguang

Bipolar transistors

Product model:
（V_{DRM}:320V,V_S:400V）

IPP Rating
A = 45 A (10×1000 μs)
B = 80 A (10×1000 μs)
C = 100 A (10×1000 μs)
M =30 A (10×1000 μs)

Package Type
L = DO-41/15/27
S = SMB　　T = SMA
E = TO-92　　U = SOP-8
M=SOT-23　　A = TO - 220
Q12=3×3 QFN

DP0640SC

半导体放电管

版本号
201603-A

Description

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

Features and Benefits

- Low voltage and overshoot
- Low on-state voltage
- Does not degrade with use
- Fails short circuit when surged in excess of ratings
- Low capacitance

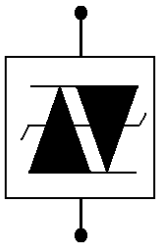
Characteristic parameters

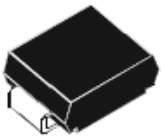
symbol	Rated value	unit
V_{DRM}	58	V
V_S	77	V
I_H	50	mA

应用领域

DP0640SC are designed to protect communication equipment , appliances and Industrial And Control Instrumentation Equipment from damaging overvoltage transients.

Package ： SMB(DO-214AA)





SMB
(DO-214AA)

Electrical Parameters

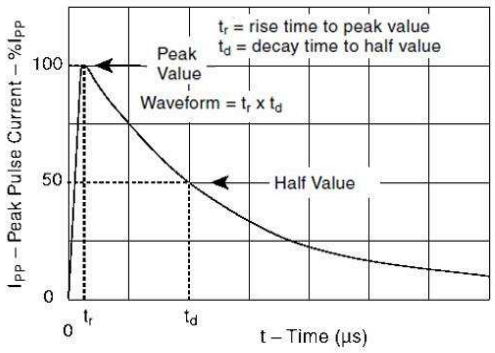
Parameter	symbol	Test conditions	Value			unit
			Min.	Typ.	Max.	
Leakage Voltage	V_{DRM}	I=5μA	58			V
Leakage Current	I_{DRM}	$V=V_{DRM}$			5	μA
Switching Voltage	V_S	100KV/s			77	V
Switching Current	I_S	100KV/s			800	mA
Holding Current	I_H	10A，10/1000μs	150			mA
On-state Voltage	V_T	I_T =2.2A			4	V
On-state Current	I_T	Rating value		2.2		A
Off-state Capacitance	C_o	1MHz，2V offset			150	pF
Peak Pulse Current	I_{PP}	10/1000μs	100			A
	V_{PP}	10/700μs（40Ω）	6000			V

■ 热特性

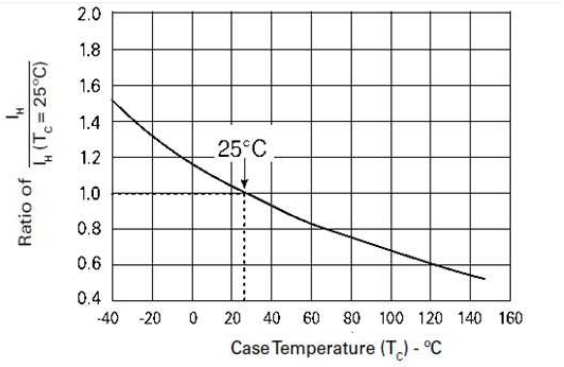
Symbol	Parameter	Value	Unit
T_J	Operating Junction Temperature	-40～+150	℃
T_S	Storage Temperature Range	-65～+150	℃

■ Typical characteristic curve

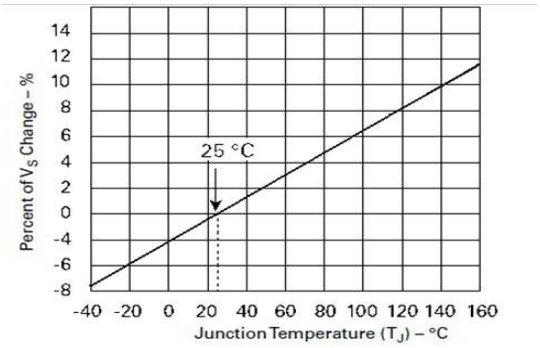
Tr x Td Pulse waveform



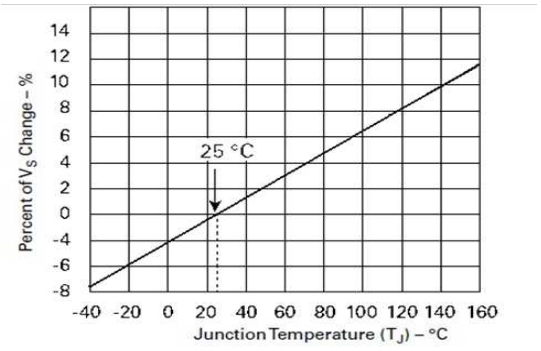
Normalized DC holding current vs. case temperature



Vs change vs. junction temperature



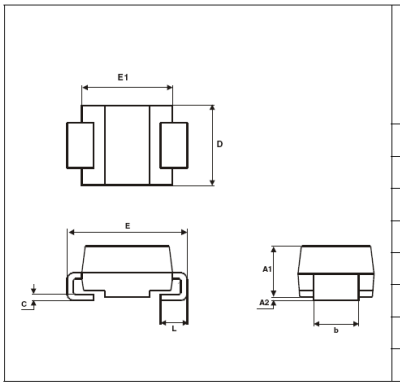
Co change vs. bias voltage （V_R=1V）

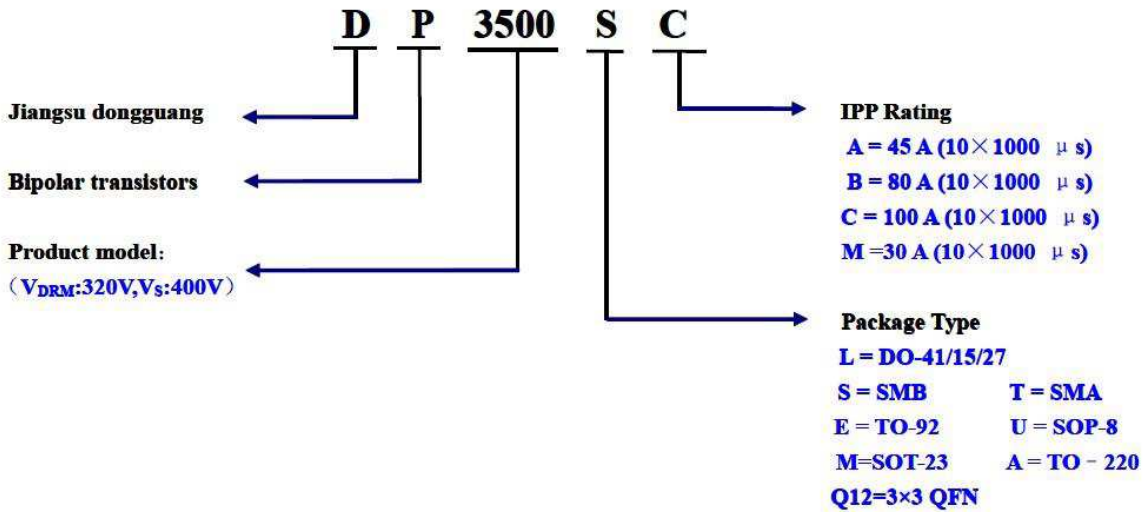


Package size

SMB

(DO-214AA)



Ref.	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A1	1.90	2.45	0.075	0.096
A2	0.05	0.20	0.002	0.008
b	1.95	2.20	0.077	0.087
c	0.15	0.40	0.006	0.016
E	5.10	5.60	0.201	0.220
E1	4.05	4.60	0.159	0.181
D	3.30	3.95	0.130	0.156
L	0.75	1.50	0.030	0.059

Naming Rule