

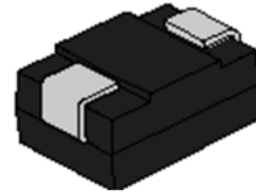


## PxxxxSDT TSS

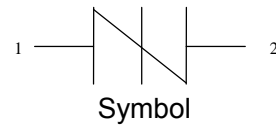
Rev.4.4

### DESCRIPTION:

PxxxxSDT series are a type of semiconductor components. This can be used to replace the traditional GDT and TVS combination solution RS485, it has small dimension, low capacitance etc.



SMC



### FEATURES:

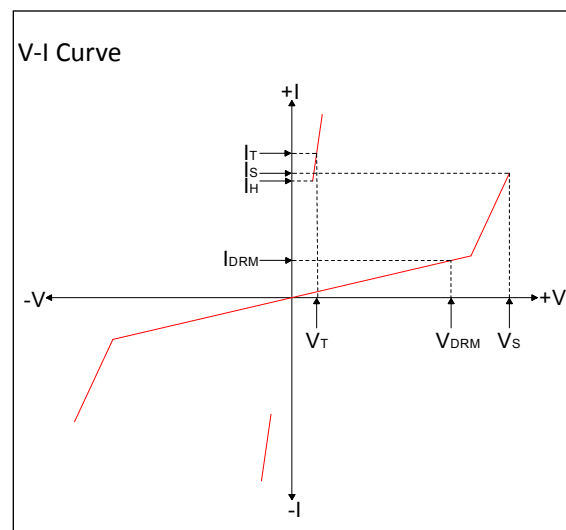
- ✧ Glass passivated junction.
- ✧ Excellent capability of absorbing transient surge.
- ✧ Quick response to surge voltage (ns Level).
- ✧ Eliminates overvoltage caused by fast rising transients.
- ✧ Moisture sensitivity level: Level 1.
- ✧ UL 497B item recognized. (File No.: E480698).
- ✧ IEC61000-4-2 (ESD)  $\pm 30\text{kV}$  (air),  $\pm 30\text{kV}$  (contact).
- ✧ Non degenerative.

### ABSOLUTE MAXIMUM RATINGS( $T_A=25^\circ\text{C}$ , RH=45%-75%, unless otherwise noted)

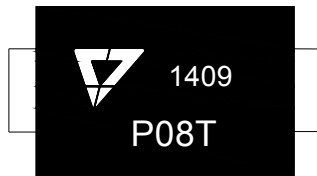
Parameter	Symbol	Value	Unit
Storage temperature range	$T_{STG}$	-60 to +150	$^\circ\text{C}$
Operating junction temperature range	$T_J$	-40 to +125	$^\circ\text{C}$
Repetitive peak pulse current @1.2/50 $\mu\text{s}$ -8/20 $\mu\text{s}$ @2 $\Omega$	$I_{PP}$	3000	A

### ELECTRICAL CHARACTERISTICS( $T_A=25^\circ\text{C}$ )

Symbol	Parameter
$V_{DRM}$	Peak off-state voltage
$I_{DRM}$	Off-state current
$V_S$	Switching voltage
$I_S$	Switching current
$V_T$	On-state voltage
$I_T$	On-state current
$I_H$	Holding current
$C_O$	Off-state capacitance



**MARKING**



P08T: Device Marking Code  
1409: In ninth week, 2014

**ELECTRICAL CHARACTERISTICS**( $T_A=25^{\circ}\text{C}$ , continued)

Part Number	$I_{DRM}@V_{DRM}$		$V_S^{①}@I_S$		$V_T@I_T$		$I_H$	$C_o^{②}$	Marking
	$\mu\text{A}$	V	V	mA	V	A	mA	pF	
	max		max	max	max	max	min	typ	
P0080SDT	1	6	15	800	4	2.2	50	500	P08T
P0150SDT	1	15	25	800	4	2.2	50	250	P15T

①  $V_S$  is measured at 100kV/s

② Off-state capacitance is measured in  $V_{DC}=2\text{V}$ ,  $V_{RMS}=1\text{V}$ ,  $f=1\text{MHz}$

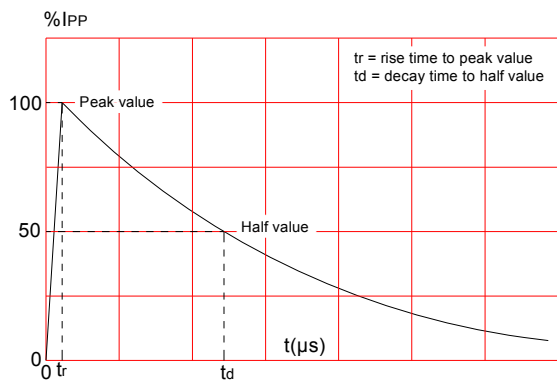
**ORDERING INFORMATION**

<b>P</b>	<b>008</b>	<b>0</b>	<b>S</b>	<b>DT</b>
Series code P: SIDAC	Median voltage	0: Bi-direction	Package type:SMC	Surge ratings:3000A

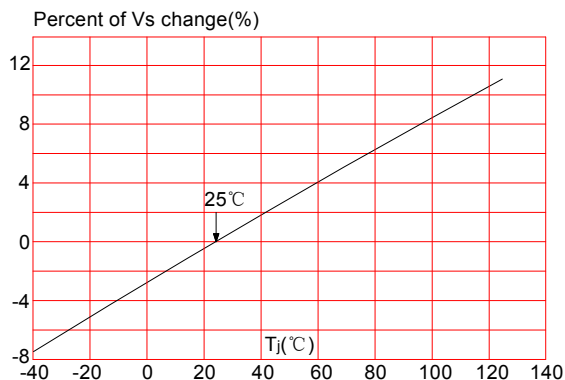
**SOLDERING PARAMETERS**

Reflow Condition		Pb-Free assembly (see FIG.2)
Pre Heat	-Temperature Min ( $T_{s(min)}$ )	+150°C
	-Temperature Max( $T_{s(max)}$ )	+200°C
	-Time (Min to Max) (ts)	60-180 secs.
Average ramp up rate (Liquidus Temp ( $T_L$ )to peak)		3°C/sec. Max
$T_{s(max)}$ to $T_L$ - Ramp-up Rate		3°C/sec. Max
Reflow	-Temperature( $T_L$ ) (Liquidus)	+217°C
	-Temperature( $t_L$ )	60-150 secs.
Peak Temp ( $T_p$ )		+260(+0/-5)°C
Time within 5°C of actual Peak Temp ( $t_p$ )		30 secs. Max
Ramp-down Rate		6°C/sec. Max
Time 25°C to Peak Temp ( $T_P$ )		8 min. Max
Do not exceed		+260°C

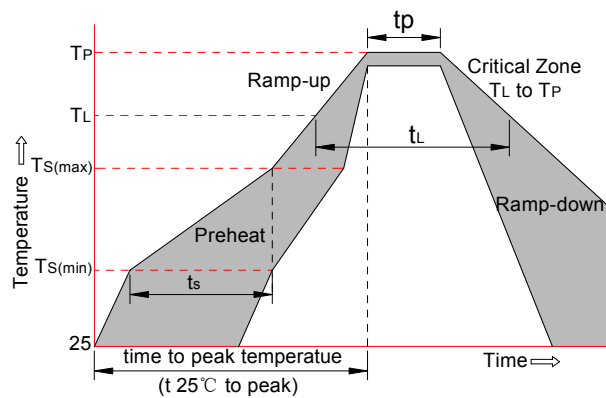
**FIG.1:** tr × td pulse waveform



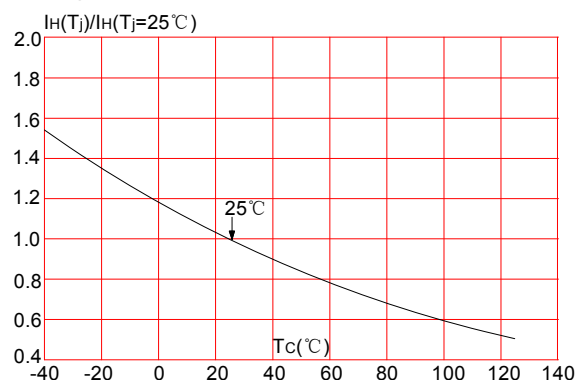
**FIG.3:** Normalized Vs change vs. junction temperature



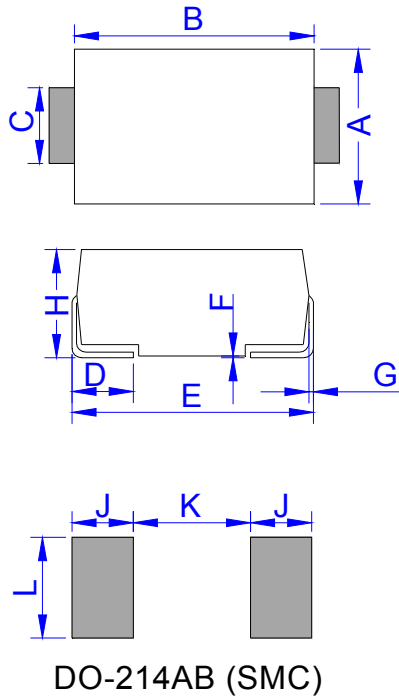
**FIG.2:** Reflow condition



**FIG.4:** Normalized DC holding current vs. case temperature

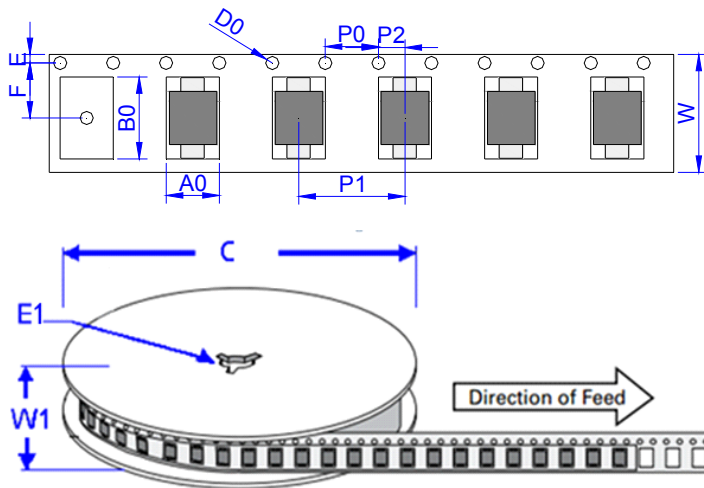


**PACKAGE MECHANICAL DATA**



Ref.	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	5.75	6.25	0.226	0.246
B	6.90	7.40	0.272	0.291
C	2.75	3.25	0.108	0.128
D	0.95	1.52	0.037	0.060
E	7.70	8.20	0.303	0.323
F	0.051	0.203	0.002	0.008
G	0.15	0.31	0.006	0.012
H	2.15	2.62	0.085	0.103
J	2.40		0.094	
K		4.20		0.165
L	3.30		0.130	


**TAPE AND REEL SPECIFICATION-SMC**



Ref.	Dimensions	
	Millimeters	Inches
A0	6.05 ± 0.3	0.238 ± 0.012
B0	8.31 ± 0.3	0.327 ± 0.012
C	330.0	13.0
D0	1.55 ± 0.1	0.061 ± 0.004
E	1.75 ± 0.2	0.069 ± 0.008
E1	13.3 ± 0.3	0.524 ± 0.012
F	7.50 ± 0.2	0.295 ± 0.008
P0	4.00 ± 0.2	0.157 ± 0.008
P1	8.00 ± 0.2	0.3145 ± 0.008
P2	2.00 ± 0.2	0.079 ± 0.008
W	16.0 ± 0.2	0.630 ± 0.008
W1	19.7 ± 2.0	0.776 ± 0.079

PART No.	UNIT WEIGHT (g/PCS) typ.	REEL (PCS)	PER CARTON (PCS)	DESCRIPTION
PxxxxSDT	0.244	3,000	48,000	13 inch reel pack

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