

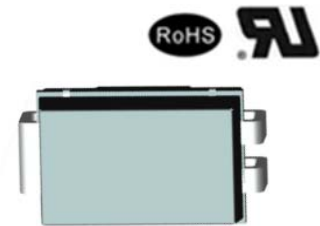


PxxxxSDT-3L TSS

Rev.1.4

DESCRIPTION

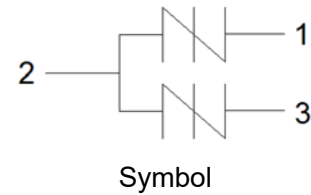
PxxxxSDT-3L series are a type of semiconductor components. They can be used to replace the traditional GDT and TVS combination solution RS485, they have small dimension, low capacitance etc.



SMC-3

FEATURES

- ✧ Glass passivated junction.
- ✧ Excellent capability of absorbing transient surge.
- ✧ Quick response to surge voltage (ns Level).
- ✧ Eliminates overvoltage caused by fast rising transients.
- ✧ Lead free in compliance with EU RoHS 2011/65/EU directive.
- ✧ 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.



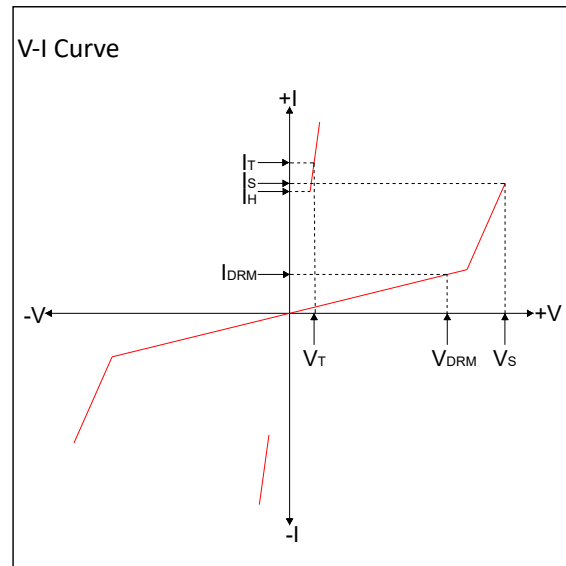
ABSOLUTE MAXIMUM RATINGS ($T_A=25^\circ\text{C}$, RH=45%-75%, unless otherwise noted)

Parameter	Symbol	Value	Unit
Storage temperature range	T_{STG}	-60 to +150	$^\circ\text{C}$
Operating junction temperature range	T_J	-40 to +125	$^\circ\text{C}$
Operating ambient temperature range	T_A	-40 to +125	$^\circ\text{C}$
Peak pulse current@1.2/50 μs -8/20 μs @2 Ω (Note 1)	I_{PP}	3000	A

Notes: 1. Surge rating: 3000A@1.2/50 μs -8/20 μs @2 Ω (PIN 1 or 3 to 2)

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
2009: In ninth week, 2020

ELECTRICAL CHARACTERISTICS($T_A=125^{\circ}\text{C}$)

Part Number	$I_{\text{DRM}}@V_{\text{DRM}}$		$V_{\text{S}}^{\text{①}}@I_{\text{S}}$		$V_{\text{T}}@I_{\text{T}}$		I_{H}	$C_{\text{O}}^{\text{②}}$		Marking
	μA	V	V	mA	V	A	mA	pF		
	max	Pin 1,3-2	Pin 1,3-2	max	max	max	min	min	max	
P0080SDT-3L	20	6	15	800	4	2.2	35	400	700	P08T
P0150SDT-3L	20	15	25	800	4	2.2	35	100	400	P15T

① V_{S} is measured at $100\text{V}/\mu\text{s}$

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

ORDERING INFORMATION

P Series code P: SIDAC	008 Median voltage	0 0: Bi-direction	S	DT Surge ratings:3000A Package type:SMC-3	-3L 3 Pins
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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: Pulse waveform

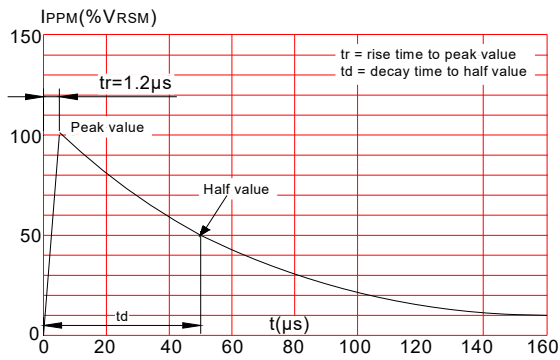


FIG.3: Normalized Vs change vs. junction temperature

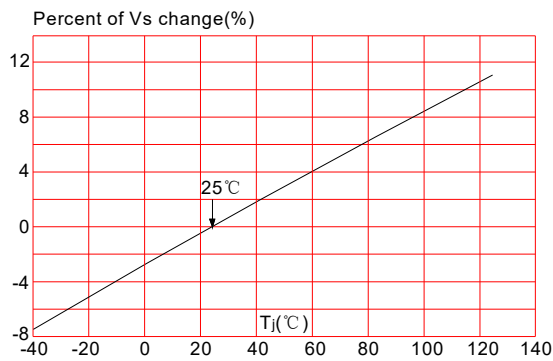


FIG.2: Reflow condition

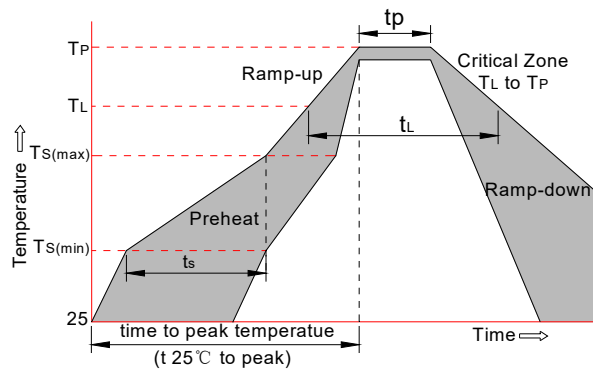
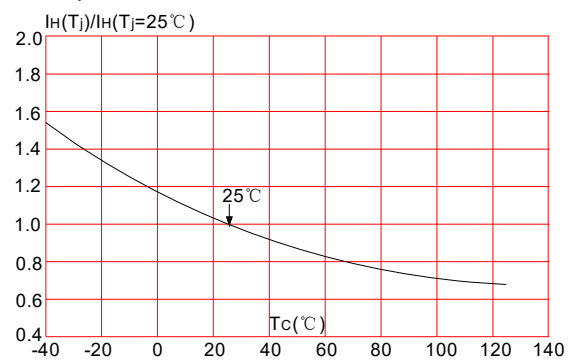
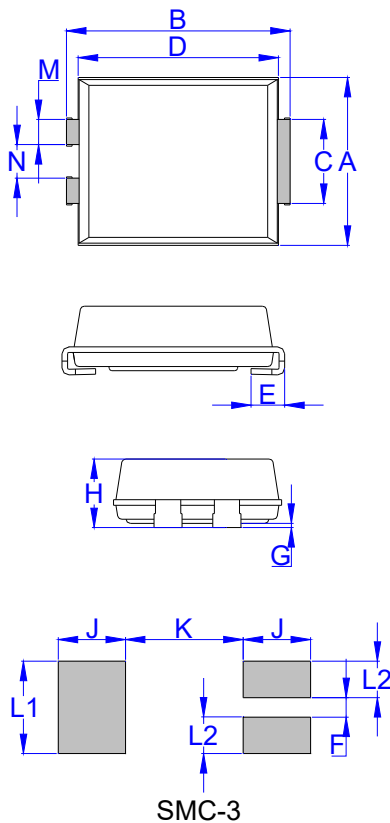


FIG.4: Normalized DC holding current vs. case temperature

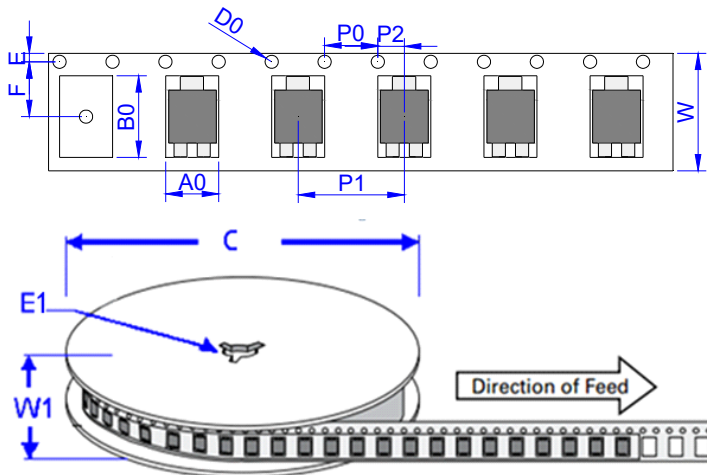


PACKAGE MECHANICAL DATA



Ref.	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	5.75	6.25	0.226	0.246
B	7.70	8.20	0.303	0.323
C	2.75	3.25	0.108	0.128
D	6.90	7.40	0.272	0.291
E	0.95	1.52	0.037	0.060
G	-	0.30	-	0.012
H	2.15	2.62	0.085	0.103
M	0.70	1.10	0.028	0.043
N	1.00	1.40	0.039	0.055
L2	1.30		0.051	
F	0.70		0.028	
J	2.40		0.094	
K		4.20		0.165
L1	3.30		0.130	

TAPE AND REEL SPECIFICATION-SMC-3




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-3L	0.33	3,000	48,000	13 inch reel pack

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