

# SMCPxxxSC

## Thyristor



### Product features

- Low profile SMB package
- Lower capacitance
- Low on-state voltage
- Excellent capability of absorbing transient surge
- Quick response to surge voltage (ns level)
- Eliminates overvoltage caused by fast rising transients
- Meets moisture sensitivity level (MSL) level 1
- UL 497B recognized.  
File No. : E198449 Guide QVGO2
- SMCPxxxSC tested and confirmed compatible with Bussmann series [TCP brick fuse](#) (see page 4)

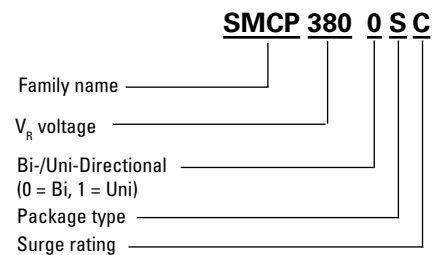
### Applications

- Consumer electronics
- Telecommunications
- Computing and servers
- Networking equipment

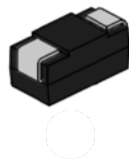
### Environmental compliance and general specifications



### Ordering part number



### PIN configuration



### Absolute maximum ratings

(+25 °C, RH=45%-75%, unless otherwise noted)

Parameter	Symbol	Value	Unit
Operating junction temperature range	$T_J$	-40 to +125	°C
Repetitive peak pulse current	$I_{PP}$	100	A
Storage temperature range	$T_{STG}$	-60 to +150	°C

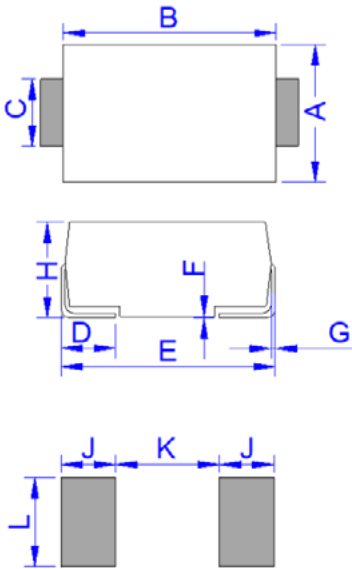
### Surge ratings

Family	$I_{PP}$ (A) minimum			
	2x10 $\mu$ s	8x20 $\mu$ s	10x360 $\mu$ s	10x1000 $\mu$ s
SMCP	500	400	175	100

### Electrical characteristics (+25 °C)

Part number	$I_{DRM}@V_{DRM}$		$V_s@I_s$		$V_T@I_T$		$I_H$ (mA) min	$C_o$ (pF) max	Marking
	( $\mu$ A) max	(V)	(V) max	(mA) max	(V) max	A max			
SMCP0080SC	1	6	15	800	4	2.2	30	60	CP-8C
SMCP0300SC	1	25	40	800	4	2.2	30	60	CP03C
SMCP0640SC	1	58	77	800	4	2.2	120	60	CP06C
SMCP0720SC	1	65	87	800	4	2.2	120	50	CP07C
SMCP1300SC	1	120	160	800	4	2.2	120	50	CP13C
SMCP1500SC	1	140	180	800	4	2.2	120	45	CP15C
SMCP1800SC	1	170	220	800	4	2.2	120	45	CP18C
SMCP2300SC	1	190	260	800	4	2.2	120	40	CP23C
SMCP2600SC	1	220	300	800	4	2.2	120	40	CP26C
SMCP3100SC	1	275	350	800	4	2.2	120	35	CP31C
SMCP3500SC	1	320	400	800	4	2.2	120	35	CP35C
SMCP3800SC	1	340	450	800	4	2.2	120	35	CP38C
SMCP4200SC	1	400	520	800	4	2.2	120	35	CP42C

**Mechanical parameters, pad layout- mm/inches**



Dimension	Millimeters		Inches	
	Minimum	Maximum	Minimum	Maximum
A	3.30	3.94	0.130	0.155
B	4.30	4.80	0.169	0.189
C	1.90	2.20	0.075	0.087
D	0.95	1.52	0.037	0.060
E	5.20	5.60	0.205	0.220
F	0.051	0.203	0.002	0.008
G	0.15	0.31	0.006	0.012
H	2.10	2.40	0.083	0.094
J	2.20		0.087	
K		2.60		0.102
L	2.30		0.091	

**Part marking**

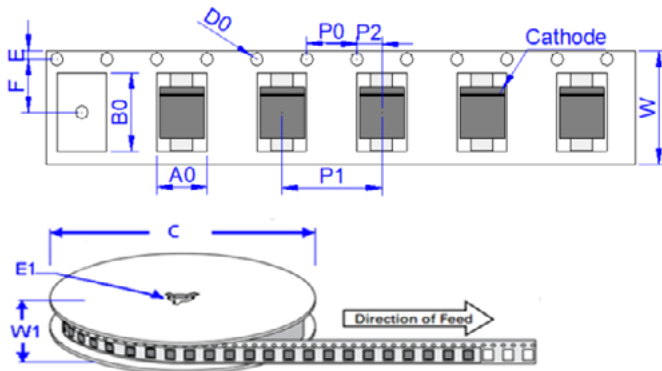


Part marking: xxxx = Date code  
yyyyy- Refer to marking designator listed in Electrical Characteristics table

**Packaging information (mm)**

Drawing not to scale.

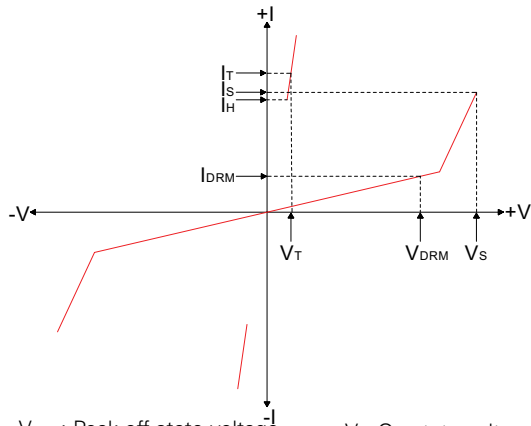
Supplied in tape and reel packaging, 3,000 parts per 13" diameter reel (EIA-481 compliant)



Dimension	Millimeters	Inches
A0	3.76 ± 0.3	0.148 ± 0.012
B0	5.69 ± 0.3	0.224 ± 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	5.5 ± 0.2	0.217 ± 0.008
P0	4.00 ± 0.2	0.157 ± 0.008
P1	8.00 ± 0.2	0.315 ± 0.008
P2	2.00 ± 0.2	0.079 ± 0.008
W	12.0 ± 0.2	0.472 ± 0.008
W1	15.7 ± 2.0	0.618 ± 0.079

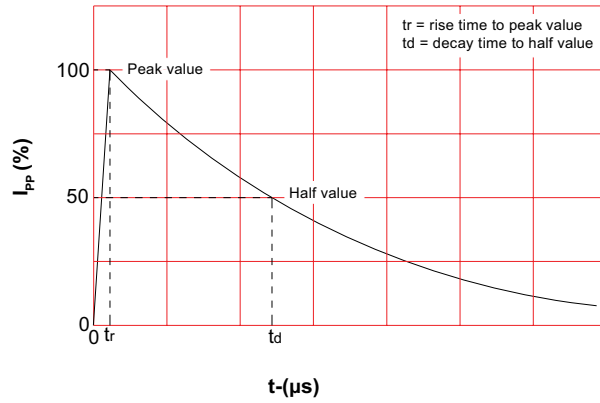
**Ratings and V-I characteristic curves (+25 °C unless otherwise noted)**

**V- I curve characteristics (Uni-directional)**

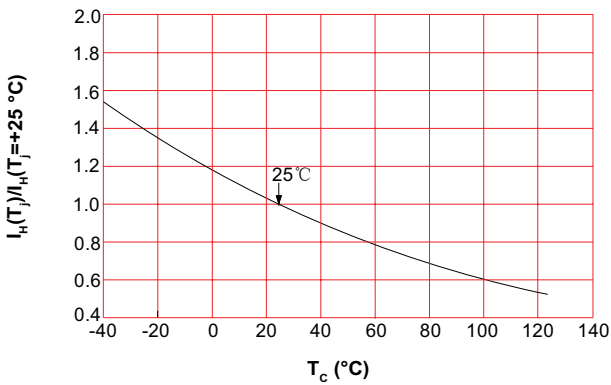


- $V_{DRM}$ : Peak off-state voltage
- $I_{DRM}$ : Off-state current
- $V_S$ : Switching voltage
- $I_S$ : Switching current
- $V_T$ : On-state voltage
- $I_T$ : On-state current
- $I_H$ : Holding current
- $C_O$ : Off-state capacitance

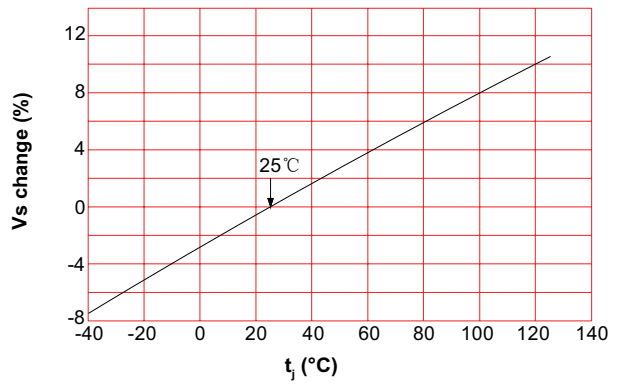
**Pulse waveform**



**Normalized DC holding current vs. case temperature**



**Normalized vs. change vs. junction temperature**



**Special Investigation**

The SMCPxxxSC family has been tested and confirmed compatible with the Bussmann series TCP brick fuse. The SMCP3100SC with the TCP1.25-R is compliant with Telcordia GR-1089 (lightning and AC power fault), FCC Part 68 and UL 60950 (AC power fault). To provide easier specification experience, Eaton can provide a special test report confirming the coordination between the SMCP3100SC and the TCP1.25-R devices

