

Asymmetrical TVS Diode Array

Primary characteristics			
Parameter	Symbol	Value	Unit
Breakdown Voltage	V_{BR}	7.5-16.0	V
Peak Pulse Power (8/20 μ s)	P_{PPM}	250/300	W

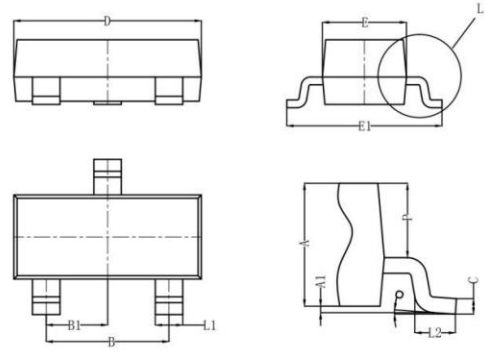
Features

- Low clamping voltage
- Solid-state Silicon-avalanche technology
- RoHS compliant and lead-free

Applications

- RS-485 transceivers with extended common mode range
- Security systems
- Automatic Teller Machines
- Lighting Control - DALI
- Communication Equipments
- HFC systems
- Network

Case dimensions



SOT-23

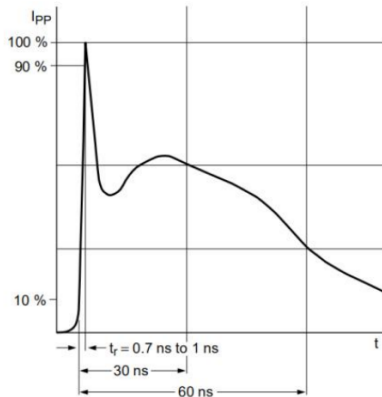
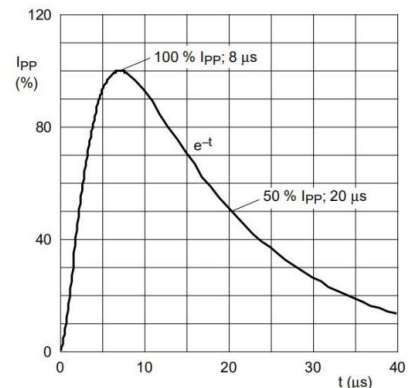
Symbol	Dimensions [mm]		
	Min.	Typ.	Max.
A	0.900	1.000	1.110
A1	0.000	0.050	0.100
L1	0.350	0.400	0.500
C	0.100	0.110	0.120
D	2.800	2.900	3.000
E	1.250	1.300	1.350
E1	2.250	2.400	2.550
B	1.800	1.900	2.000
B1	0.950 Typ		
L2	0.200	0.350	0.450
P	0.550	0.575	0.600

Maximum Ratings ($T_{OP} = 25^{\circ}\text{C}$ unless otherwise specified)

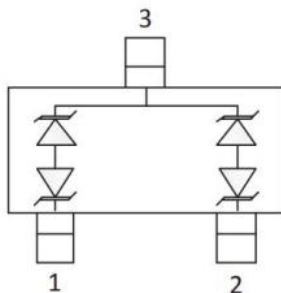
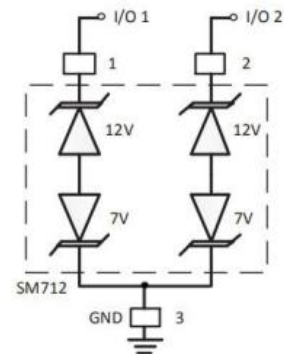
Parameter	Conditions	Symbol	Value	Unit
Peak Pulse Power ($t_p=8/20\mu\text{s}$)	$V_{RWM}=7\text{V}/V_{RWM}=12\text{V}$	P_{PPM}	250/300	W
Peak Pulse Current ($t_p=8/20\mu\text{s}$)	$V_{RWM}=7\text{V}/V_{RWM}=12\text{V}$	I_{PPM}	18/15	A
ESD Voltage IEC 61000-4-2	air discharge	V_{ESD}	30	kV
ESD Voltage IEC 61000-4-2	contact discharge	V_{ESD}	30	kV
Maximum Lead Temperature	soldering for 10s	T_L	260	$^{\circ}\text{C}$
Storage Temperature Range	-	T_{stg}	-55 to +150	$^{\circ}\text{C}$
Operating Temperature Range	-	T_{OP}	-40 to +125	$^{\circ}\text{C}$

Electrical Characteristics ($T_{OP} = 25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Conditions	Symbol	Value			Unit
			Min.	Typ.	Max.	
Reverse Working Voltage	Pin3 to Pin1 or 2	V_{RWM}	-	-	7.0	V
	Pin1 or 2 to Pin3		-	-	12.0	
Breakdown Voltage	$I_T=1\text{mA}$, Pin3 to Pin1 or 2	V_{BR}	7.5	-	9.5	V
	$I_T=1\text{mA}$, Pin1 or 2 to Pin3		13.5	-	16.0	
Leakage Current	$V_{RWM}=7\text{V}$, Pin3 to Pin1 or 2	I_R	-	-	0.1	μA
	$V_{RWM}=12\text{V}$, Pin1 or 2 to Pin3		-	-	0.1	
Clamping Voltage	$I_{PP}=18\text{A}$, $T_p=8/20\mu\text{s}$, Pin3 to Pin1 or 2	V_C	-	12.5	14.0	V
	$I_{PP}=15\text{A}$, $T_p=8/20\mu\text{s}$, Pin1 or 2 to Pin3		-	18.5	20.0	
Junction Capacitance	$V_R=0\text{V}$, $f=1\text{MHz}$, Pin1 or 2 to Pin3	C_J	-	27.0	35.0	pF

Typical Characteristics
IEC 61000-4-2 Waveform

IEC 61000-4-5 Waveform (8/20 μs pulse)

Schematic and Pin Configuration
Schematic and Pin Configuration

Top View


Circuit Diagram


Ordering information		
Device	Package	Packaging
SM712D	SOT-23	3000pcs / Tape & Reel

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