



## 5-Line ESD Protection Diode Array

### General description

Designed to protect voltage sensitive electronic components from ESD and other transients. Excellent clamping capability, low leakage, low capacitance, and fast response time provide best in class protection on designs that are exposed to ESD. The combination of small size, low capacitance, and high level of ESD protection makes them a flexible solution for applications such as HDMI, Display Port TM, and MDDI interfaces. It is designed to replace multilayer varistors (MLV) in consumer equipments applications such as mobile phone, notebook, PAD, STB, LCD TV etc..

### Features and benefits

- Uni-directional ESD protection of 5 lines
- IEC 61000-4-2 Level 4 ESD protection
- Low reverse stand-off voltage: 5V
- Low reverse clamping voltage
- Low leakage current
- Fast response time
- Small package saves board space
- RoHS compliant

### Application information

- Computers and peripheral
- Audio and video equipment
- Cellular handsets and accessories
- Portable electronics
- Other electronics equipments communication systems

### Ordering information

Device	Package	Packaging	Reel Size
SMF05C	SOT363	3000/Tape & Reel	7 inch

### Schematic & Pin configuration



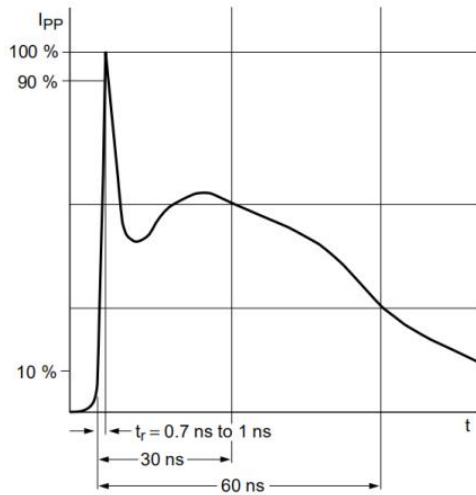
### Maximum Ratings (T<sub>A</sub> = 25 °C, unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power (T <sub>p</sub> = 8/20μs)	P <sub>PPM</sub>	60	W
Rated Peak Pulse Current (T <sub>p</sub> = 8/20μs)	I <sub>PPM</sub>	5	A
ESD voltage IEC 61000-4-2 (air discharge)	V <sub>ESD</sub>	20	kV
ESD voltage IEC 61000-4-2 (contact discharge)	V <sub>ESD</sub>	15	kV
Maximum lead temperature for soldering during 10s	T <sub>L</sub>	260	°C
Storage Temperature Range	T <sub>stg</sub>	-55 to +150	°C
Operating Temperature Range	T <sub>OP</sub>	-40 to +125	°C

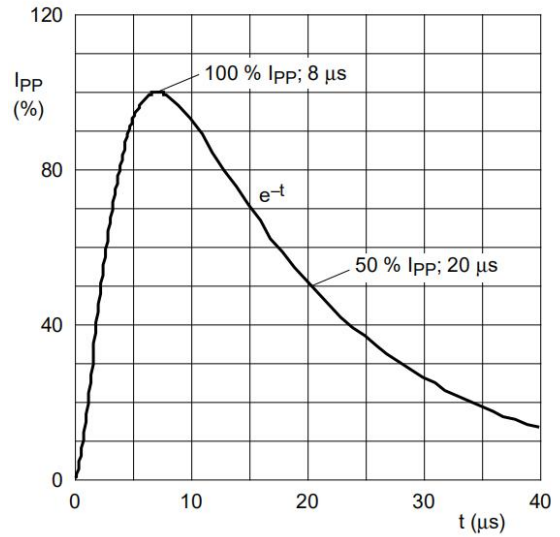
### Electrical Characteristics (T<sub>A</sub> = 25 °C, unless otherwise specified)

Parameter	Symbol	Min	Typ	Max	Unit	Condition
Reverse Working Voltage	V <sub>RWM</sub>	--	--	5.0	V	
Breakdown Voltage	V <sub>BR</sub>	6.0	--	7.5	V	I <sub>T</sub> =1mA
Leakage Current I <sub>Leak</sub>	I <sub>R</sub>	--	--	100	nA	V <sub>RWM</sub> =5V
Clamping Voltage	V <sub>C</sub>	--	--	9.0	V	I <sub>PP</sub> =1A, T <sub>p</sub> =8/20μs
Clamping Voltage	V <sub>C</sub>	--	--	12.0	V	I <sub>PP</sub> =5A, T <sub>p</sub> =8/20μs
Junction Capacitance	C <sub>j</sub>	--	30	35	pF	V <sub>R</sub> =0V, f=1MHz

### Typical Characteristics

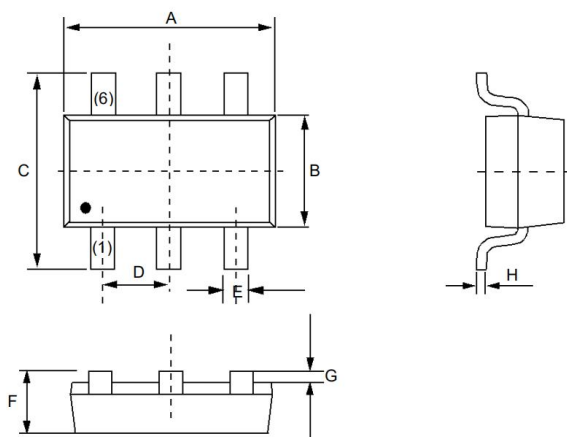


IEC61000-4-2 Waveform



IEC 61000-4-5 Waveform( 8/20 $\mu\text{s}$  pulse)

### Package Outline Dimensions (SOT363)



Symbol	Dimensions In Millimet	
	Min	Max
A	2.0	2.2
B	1.10	1.40
C	2.10	2.50
D	0.65BSC	
E	0.15	0.35
F	0.90	1.1
G	0.00	0.12
H	0.05	0.20