

5-Line ESD Protection Diode Array



General description

This 5-line surge protection array is designed for application requiring transient voltage protection capability. It is intended for use in over-transient voltage and ESD sensitive equipment such as computers, printers, automotive electronics, networking communication and other applications. This device features a monolithic common anode design which protects five independent lines in a single SOT23-6L package.

Features and benefits

- Protects up to 5 Lines in a Single SOT23-6L Package
- Provide ESD protection for each channel to
IEC 61000-4-2(ESD) $\pm 30\text{kV}$ (air), $\pm 30\text{kV}$ (contact)
IEC 61000-4-5(Lightning)(8/20 μs) 10A
- Low Working Voltage: 5.0V
- Low Clamping Voltage
- Response time is typically < 1 ns
- RoHS compliant

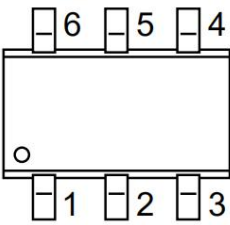
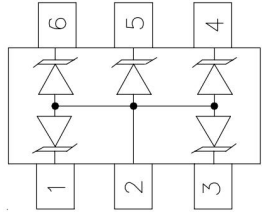
Application information

- Cell phone Handsets and Accessories
- Microprocessor Based Equipment
- Personal Digital Assistants(PDA's)
- Notebooks,Desktops,and Servers
- Portable Instrumentation
- Set Top Box
- Peripherals
- MP3 Players
- Cordless Phones

Ordering information

Device	Package	Marking	Packaging	Size Reel
SMS05C	SOT23-6L	6JL	3000/Tape & Reel	7 Inch

Schematic & Pin configuration

Simplified outline	Graphic symbol
top view 	

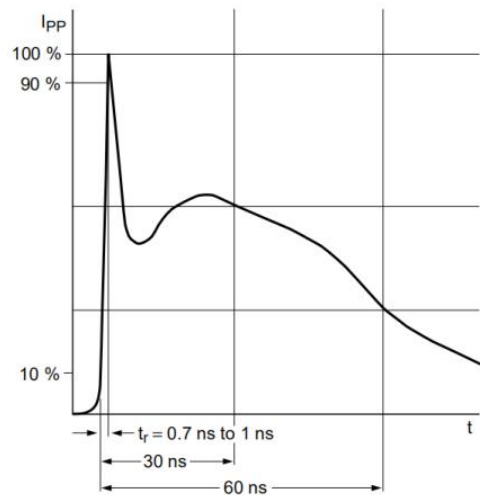
Maximum Ratings (T_{OP} = 25 °C, unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power (Tp = 8/20μs)	P _{PPM}	190	W
Rated Peak Pulse Current (Tp = 8/20μs)	I _{PPM}	10	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 for soldering during 10s	T _L	260	°C
Storage Temperature Range	T _{stg}	-55 to +150	°C
Operating Temperature Range	T _{OP}	-40 to +125	°C

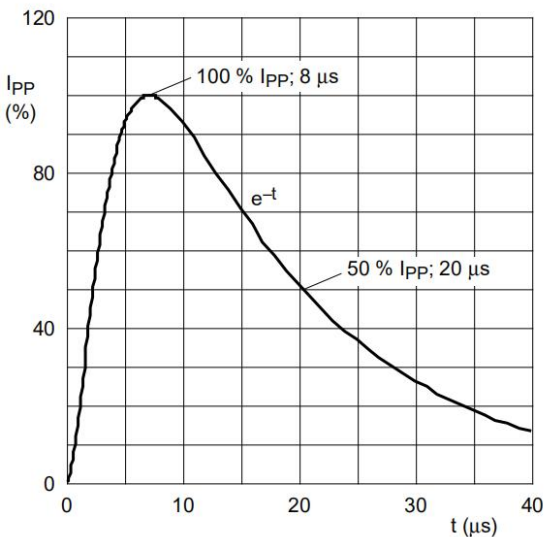
Electrical Characteristics (T_{OP} = 25 °C, unless otherwise specified)

Parameter	Symbol	Min	Typ	Max	Unit	Condition
Reverse Working Voltage	V _{RWM}	--	--	5.0	V	
Breakdown Voltage	V _{BR}	6	--	8.5	V	I _T =1mA
Leakage Current I _{Leak}	I _R	--	--	100	nA	V _{RWM} =5V
Clamping Voltage	V _C	--	--	19.0	V	I _{PP} =10A, Tp=8/20μs
Junction Capacitance	C _j	--	60	80	pF	V _R =0V, f=1MHz I/O to GND

Typical Characteristics

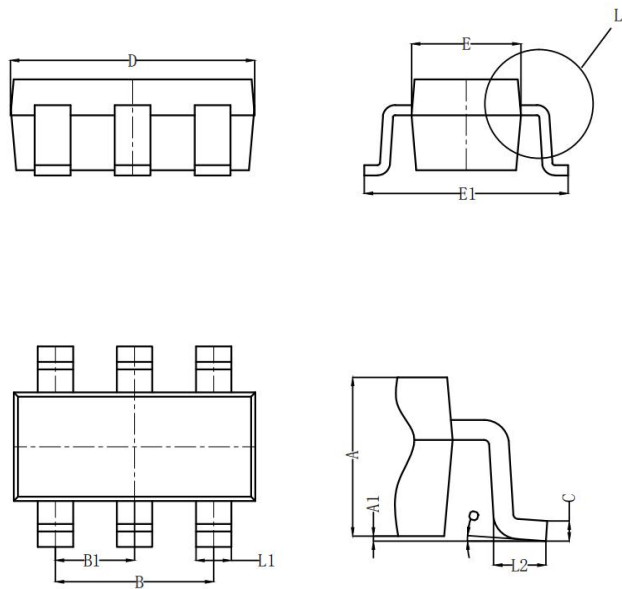


IEC61000-4-2 Waveform



IEC 61000-4-5 Waveform(8/20μs pulse)

Package Outline Dimensions (SOT23-6L)



Symbol	Dimensions In Millimet	
	Min	Max
A	1.050	1.150
A1	0.000	0.100
L1	0.300	0.500
C	0.100	0.200
D	2.810	3.030
E	1.500	1.700
E1	2.650	2.950
B	1.800	2.000
B1	0.950typ	
L2	0.300	0.600
O	0°	8°