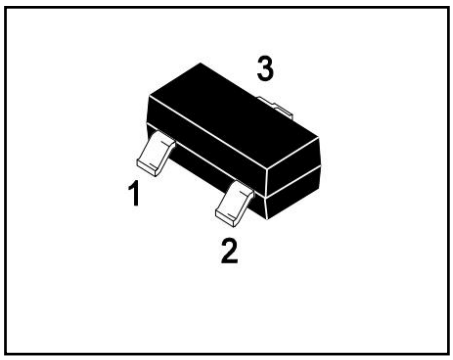
ESD Protection Diode Array

Dual Common Anode

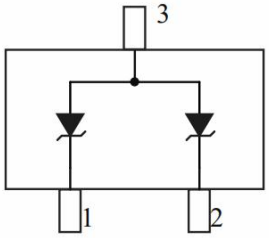


These dual monolithic silicon surge protection diodes are designed for applications requiring transient overvoltage protection capability. They are intended for use in voltage and ESD sensitive equipment. as computers, printers, business machines, communication systems, medical equipment and other applications. Their dual junction common anode design protects two separate lines using only one package. These devices are ideal for situations where board space is at a premium

The SM24 is available in SOT-23 package.
Standard products are Pb-free and Halogen-free.

Features

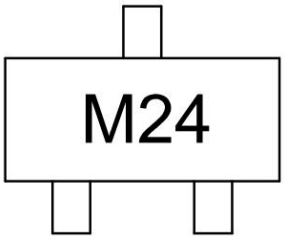
- 2 Unidirectional transil functions
- Reverse stand-off voltage: 24V Max
- Low leakage current: nA Level
- Response time is typically < 1 ns
- Low Capacitance 15pF (I/O-GND Max)
- Transient protection for each line according to
  IEC61000-4-2(ESD) 15KV(air) 8KV(contact)
  IEC61000-4-5(Lightning) see I_{PPM} below



Pin Configuration

Applications

- Computers
- Printers
- Communication systems
- Cellular Handsets and Accessories
- Portable Electronis
- Industrial Controls
- Set-Top Box



Marking

Ordering Information

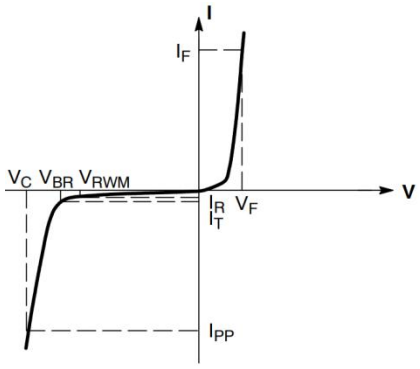
Device	Package	Shipping
SM24	SOT-23	3000/Tape & Reel

Absolute Maximum Ratings (T_A=25℃ unless otherwise specified)

Paramete	Symbol	Value	Unit
Peak Pulse Power (8/20μs)	Ppk	90	W
Lead Solder Temperature − Maximum (10 Second Duration)	TL	260	℃
ESD per IEC61000-4-2 (Air) ESD per IEC61000-4-2 (Contact)	V_{ESD}	±15 ±8	KV
Operating Temperature Range	T_J	-40 to +125	℃
Storage Temperature Range	Tstg	-55 to +150	℃

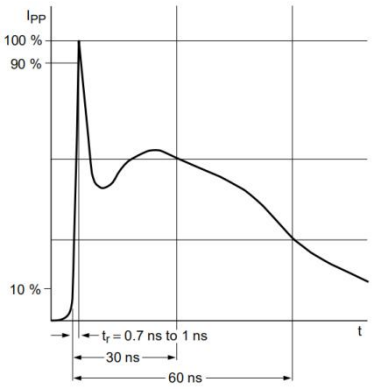
Electrical Characteristics (T_A=25℃ unless otherwise specified)

Symbol	Parameter
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}
V_{RWM}	Working Peak Reverse Voltage
I_R	Maximum Reverse Leakage Current @ V_{RWM}
V_{BR}	Breakdown Voltage @ I_T
I_T	Test Current
I_F	Forward Current
V_F	Forward Voltage @ I_F
P_{pk}	Peak Power Dissipation
C	Max. Capacitance @ V_R = 0 and f = 1.0 MHz

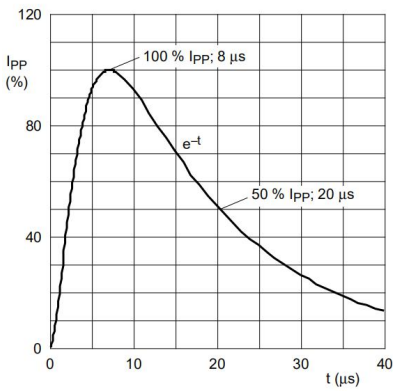


Electrical Characteristics (T_A=25℃ unless otherwise specified)

Paramete	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	V_{RWM}	--	--	24.0	V	
Breakdown Voltage	V_{BR}	26.0	--	--	V	I_T=1mA
Leakage Current ILeak	I_R	--	--	100	nA	V_{RWM}=24V
Clamping Voltage	V_C	--	--	45.0	V	I_{PP}=2A,Tp=8/20μs
Peak Pulse Current	I_{PP}	--	--	2.0	A	Tp=8/20μs
Junction Capacitance	C_J	--	--	15	pF	V_R=0V, f=1MHz (Pin 1 or 2 to 3)
Junction Capacitance	C_J	--	4.5	6	pF	V_R=0V, f=1MHz (Pin 1 to 2 and 2 to 1)

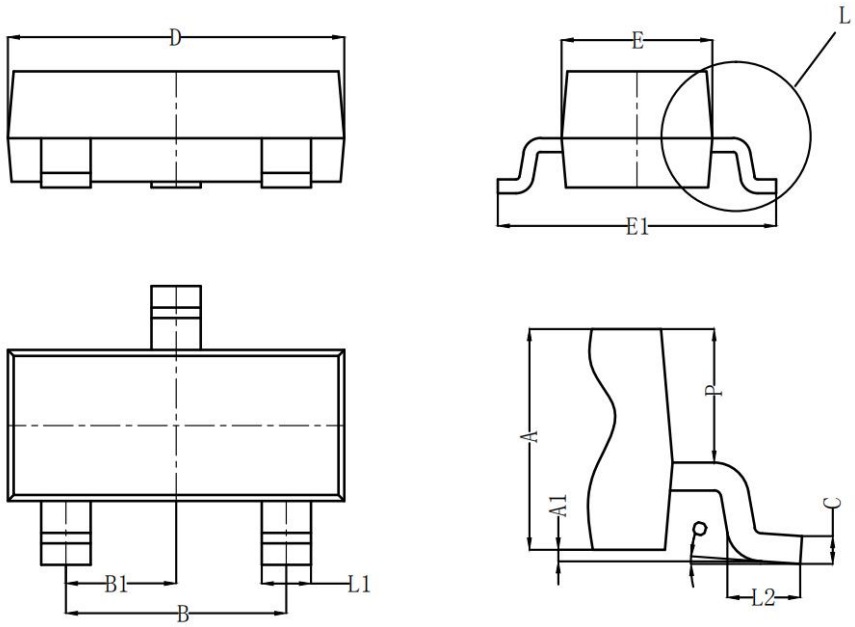


IEC61000−4−2 Waveform



8/20 µs Pulse Waveform

SOT-23 Package outline



Symbol	Dimensions (mm)		
	Min	Typ	Max
A	0.900	1.000	1.1100
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