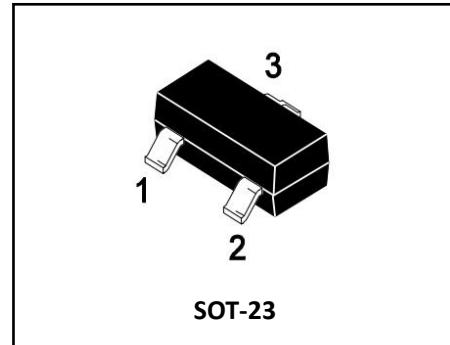


2-Lines, Bi-directional transil functions

The SM24C TVS Diode Array is designed to protect Area Network (CAN) lines from damage due to electrostatic discharge (ESD), electrical fast transient (EFT), and other overvoltage transients.

The SM24C Series can absorb repetitive ESD strikes above the maximum level specified in the IEC 61000-4-2 international standard without performance degradation and safely dissipate 2A of 8/20us surge current (IEC 61000-4-5) .



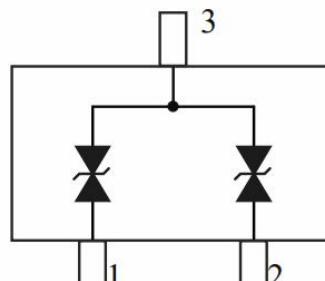
SOT-23

The SM24C is available in SOT-23 package.

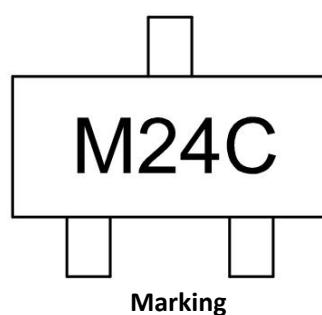
Standard products are Pb-free and Halogen-free.

Features

- ◆ 2 Bi-directional transil functions
- ◆ Reverse stand-off voltage: ±24V Max
- ◆ Low leakage current: nA Level
- ◆ Response time is typically < 1 ns
- ◆ Low Capacitance 4.5pF (I/O-GND Typ)
- ◆ 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

- ◆ ADAS Control Units CAN Bus
- ◆ PowerTrain Control Units
- ◆ Electronic Control Units
- ◆ Factory Automation
- ◆ Body Control Units
- ◆ Lightning Control (DALI)

Ordering Information

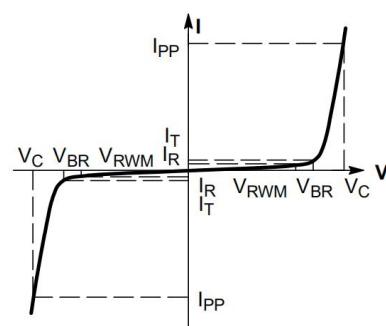
Device	Package	Shipping
SM24C	SOT-23	3000/Tape & Reel

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

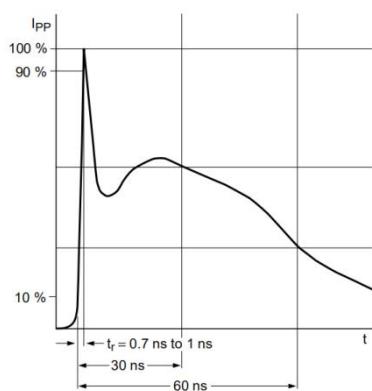
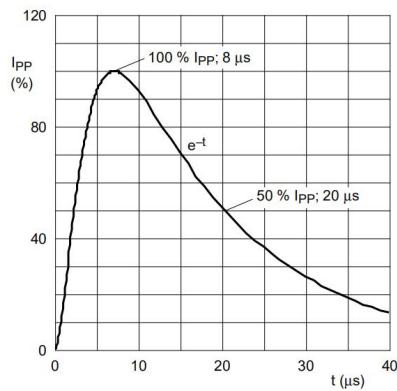
Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20μs)	Ppk	160	W
Lead Solder Temperature – Maximum (10 Second Duration)	TL	260	°C
ESD per IEC61000-4-2 (Air)	V _{ESD}	±15	KV
ESD per IEC61000-4-2 (Contact)		±8	
Operating Temperature Range	T _J	-40 to +125	°C
Storage Temperature Range	T _{Stg}	-55 to +150	°C

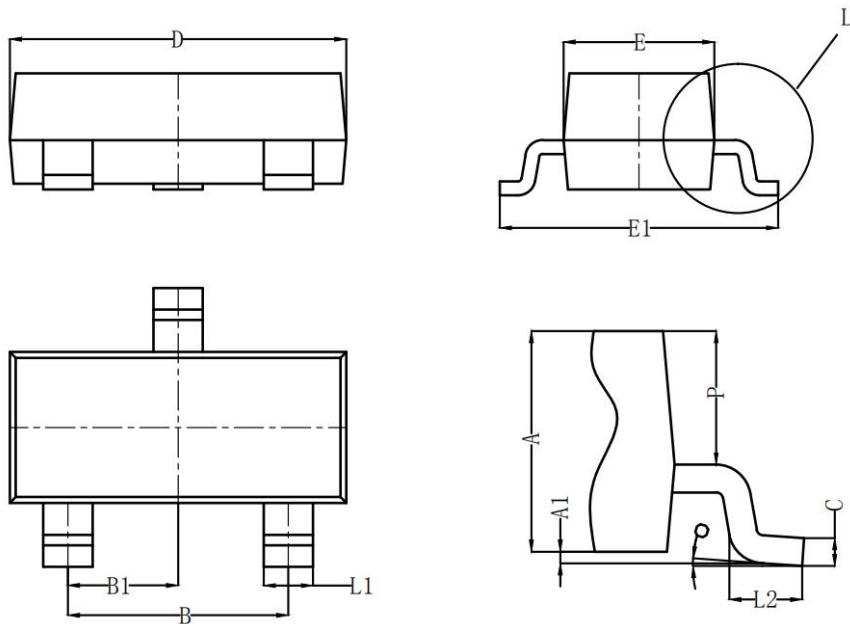
Electrical Characteristics ($T_A=25^\circ\text{C}$ unless otherwise specified)

Symbol	Parameter
I _{PP}	Reverse Peak Pulse Current
V _C	Clamping Voltage @ I _{PP}
V _{RWM}	Working Peak Reverse Voltage
I _R	Reverse Leakage Current @ V _{RWM}
V _{BR}	Breakdown Voltage @ I _T
I _T	Test Current


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

Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	V _{RWM}	--	--	24.0	V	
Breakdown Voltage	V _{BR}	26.7	--	--	V	I _T =1mA
Leakage Current I _{Leak}	I _R	--	--	100	nA	V _{RWM} =24V
Clamping Voltage	V _C	--	--	80.0	V	I _{PP} =2A, T _p =8/20μs
Peak Pulse Current	I _{PP}	--	--	2.0	A	T _p =8/20μs
Junction Capacitance	C _J	--	4.5	6	pF	V _R =0V, f=1MHz (Pin1 or 2 to 3)


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