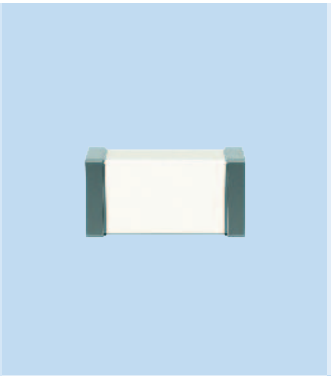
EPCOS Product Brief 2012

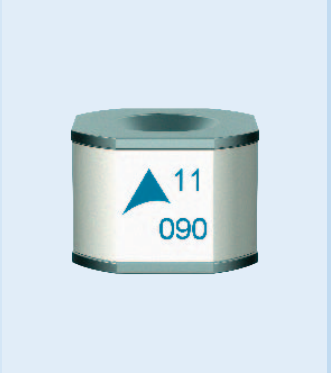
SMD Surge Arresters

Gas Discharge Tubes for Overvoltage Protection

Applications

- **S20/S30**
  Miniature 2-electrode SMD surge arrester designed for data lines and Ethernet ports.
- **S50**
  Miniature 2-electrode SMD surge arrester with medium current handling capability for cable modems, DSL line cards etc.
- **S80**
  Miniature 2-electrode SMD surge arrester with high current handling capability for i.e. antenna protection.
- **TG30**
  Miniature 3-electrode SMD surge arrester designed for data-lines and Ethernet ports.





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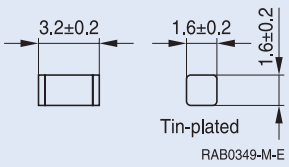
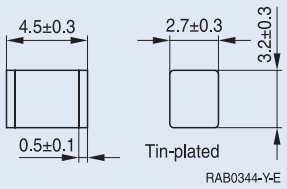
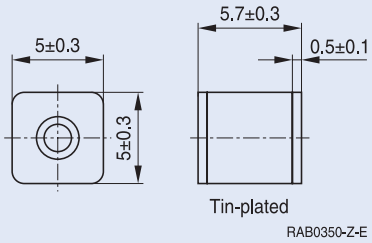
SMD Surge Arresters

2-electrode arresters

S20-…	S30-…	S50-…
		





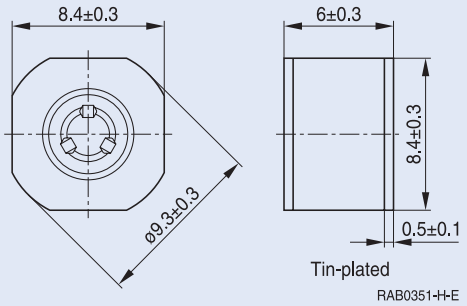


Type SMD	S20-…		S30-…				
	S20-A200X	**S20-A470X**	**S30-A90X**	**S30-A150X**	**S30-A230X**	**S30-A230XS**	**S30-A300XS**
Ordering code	B88069X 9731T303	B88069X 1193T303	B88069X 1023T203	B88069X 6071T203	B88069X 5941T203	B88069X 9801T203	B88069X 6891T203
Dimensions	3.2 × 1.6 × 1.6		4.5 × 3.2 × 2.7				
Nom. DC spark-overvoltage V_{sdcN}	200	470	90	150	230	230	300
Tolerance of V_{sdcN}	±30	±30	±30	±30	±25	±30	±30
Impulse spark-over voltage							
@ 100 V/µs 99% of measured values	–	–	<500	<500	<650	<500	<580
@ 100 V/µs typical values	<700	<950	<400	<400	<550	<400	<500
@ 1 kV/µs 99% of measured values	–	–	<600	<600	<800	<600	<650
@ 1 kV/µs typical values	<800	<1050	<500	<500	<700	<500	<550
Nom. alternating discharge current @ 50 Hz, 1 s	–	–	2	2	2	–	–
Nom. impulse discharge current 10 operation 8/20 µs	0.5	0.5	2	2	1	1	1
Insulation resistance	>1	>1	>1	>1	>1	>1	>1
Capacitance @ 1 MHz	<1	<1	<1	<1	<1	<1	<1

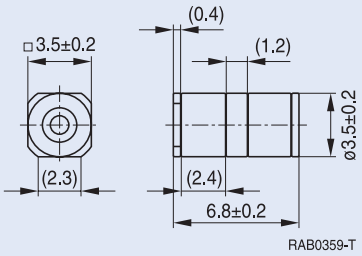
For further information please contact your EPCOS sales office.

3-electrode arresters

S80-…



TG30-…



			S50-… Under development Preliminary data		S80-… Under development Preliminary data		TG30-…	
S30-A350X	**S30-A400X**	**S30-A420XS**	**S50-A90X**	**S50-A230X**	**S80-A90X**	**S80-A230X**	**TG30-A90XSMD**	
B88069X 8391T203	B88069X 5211T203	B88069X 6311T203	upon request	upon request	upon request	upon request	B88069X 9991T203	
			5 × 5 × 5.7		8.4 × 8.4 × 6		ø 3.5 × 6.8	mm
350	400	420	90	230	90	230	90	V
±25	±25	±25	±20	±20	±20	±20	±30	%
<750	<800	<650	<550	<550	<500	<500	<450	V
<700	<750	<550	<500	<500	<450	<450	<350	V
<900	<950	<750	<600	<650	<600	<650	<650	V
<850	<900	<600	<550	<600	<550	<550	<550	V
2	2	–	5	5	20	20	2	A
2	1	1	5	5	20	20	2	kA
>1	>1	>1	>1	>1	>1	>1	>1	GΩ
<1	<1	<1	<1	<1	<1.5	<1.6	<1	pF

SMD Surge Arresters

Overvoltage protection of data lines by gas discharge tubes

Voltage surges in telecommunication systems caused by lightning or line power faults can affect sensitive electronic circuitry.

Manufacturers of telecom equipment such as main distribution frames, subscriber terminal boxes, DSL and cable modems, fax machines are increasingly using overvoltage protection by gas discharge tubes (GDTs).

GDTs shunt surge currents to ground and limit overvoltages to a harmless level. Major advantages are their extremely low capacitance and high insulation resistance, making them almost invisible in normal operation. In addition they offer high current handling.
In the new S50 and S80 series EPCOS offers arresters with high current handling capability combined with excellent SMD configurability.

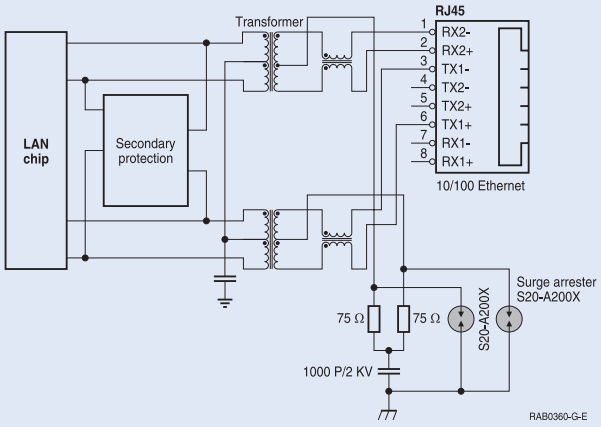
In the new miniature series S20/S30 (2-electrode arrester) and TG3 (3-electrode arrester) EPCOS has now also introduced overvoltage protection by gas-filled surge arresters for applications where space is a limiting factor.

Overvoltage protection of Ethernet ports by gas-filled surge arresters

EPCOS offers two alternative solutions for protecting Ethernet ports.

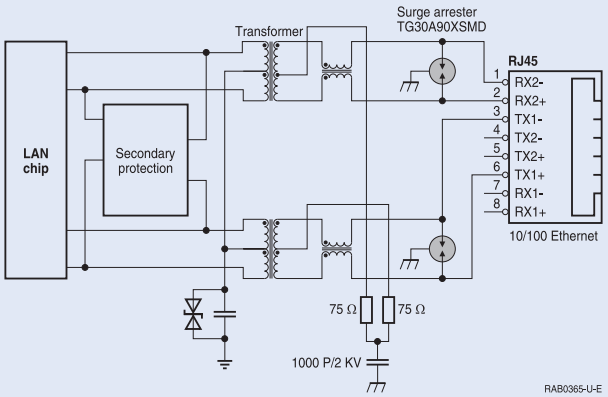
2-electrode arrester

A 2-electrode arrester is connected to the center contact of the transformer and leads surges to ground bypassing the R/C combination.



3-electrode arrester

A 3-electrode arrester is integrated ahead of the circuit and leads surges direct to ground.



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