Gas Discharge Tubes(GDT)

Description

The SMD3216 series has been especially designed to meet data transmission protection requirements. The optimized design features a high level of protection against fast rising transients usually caused by lightning disturbances. For use in high frequency data lines, the series offers ultra low capacitances and shows only marginally signal losses up to high frequencies. The devices are extremely reliable and are able to withstand high surge currents without destruction.

Electrical symbol

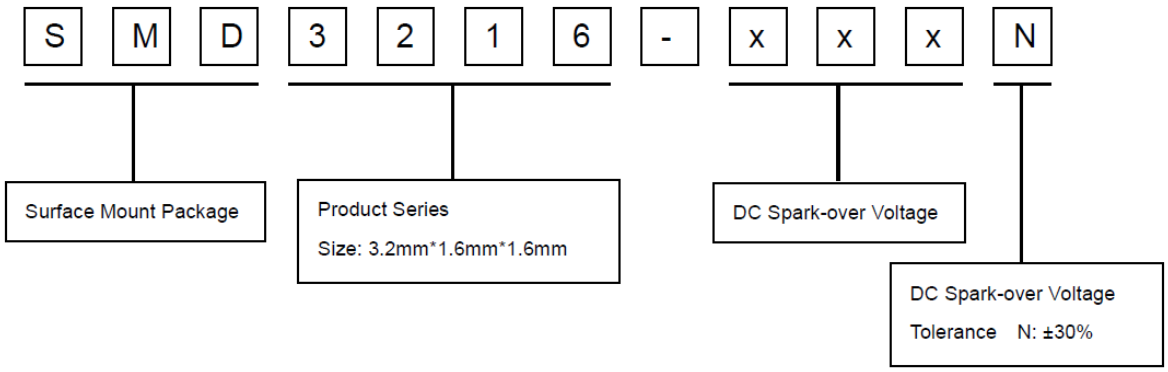
Features

- Excellent response to fast rising transients
- Stable breakdown voltage
- GHz working frequency
- 8/20μs Impulse current capability: 500A
- Surface Mount package
- Non-Radioactive
- Ultra Low capacitance(<0.3pF) and insertion loss
- Lead-free and RoHS compliant
- Very Small Size(EIA 1206)
- Storage and operational temperature: -40~+90℃

Applications

- Ethernet, PoE, xDSL
- Cable modem, splitters, line cards
- Wireless antenna protection
- CATV equipment
- Switching power supply

Part Number Code



Electrical Characteristics

Terms in accordance with ITU-T Rec. K.12, IEC 61643-311, GB/T 9043.

Part Number	DC Spark-over Voltage [1) 2)] @100V/S	Impulse Spark-over Voltage		Insulation Resistance [3)]	Capacitance @1 MHz	Service life		
		100V/μS	1KV/μS			Impulse Discharge Current @8/20μS		Impulse Withstanding Voltage Capacity @10/700μS, 40Ω ±5 times
		Max	Max	Min	Max	Nominal ±5 times	Max 1 time	
	V	V	V	GΩ	pF	A	A	KV
SMD3216-090N	90±30%	600	700	1	0.3	500	600	6
SMD3216-150N	150±30%	600	700	1	0.3	500	600	6
SMD3216-200N	200±30%	650	750	1	0.3	500	600	6
SMD3216-230N	230±30%	650	750	1	0.3	500	600	6
SMD3216-300N	300±30%	700	800	1	0.3	500	600	6
SMD3216-350N	350±30%	750	850	1	0.3	500	600	6
SMD3216-400N	400±30%	850	950	1	0.3	500	600	6
SMD3216-420N	420±30%	850	950	1	0.3	500	600	6
SMD3216-470N	470±30%	1000	1100	1	0.3	500	600	6
SMD3216-500N	500±30%	1000	1200	1	0.3	500	600	6
SMD3216-600N	600±30%	1200	1400	1	0.3	500	600	6

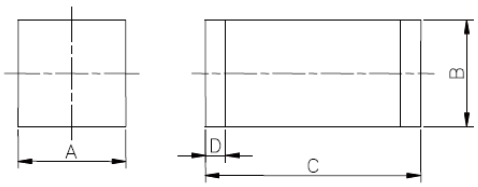
Glow Voltage at 10mA..... ~60V
Arc Voltage at 1A..... ~10V
Glow to Arc transition Current..... ~0.1A
Operation and storage temperature..... -40~+90˚C
Climatic category (IEC 60068-1)..... 40/90/21
Marking..... Without

Notes :

1) At delivery AQL 0.65 level II, DIN ISO 2859
2) In ionized mode
3) Insulation Resistance Measuring Voltage :
90V~150V at DC 50V
Other at DC 100V

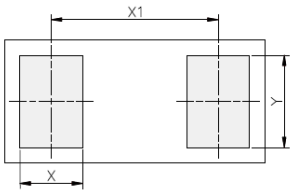
Dimensions

Symbol	Millimeters	Inches
A	1.6±0.2	0.063±0.008
B	1.6±0.2	0.063±0.008
C	3.2±0.3	0.126±0.012
D	0.3±0.1	0.012±0.004

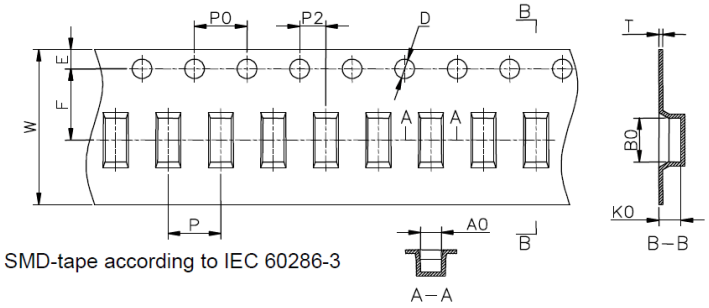


Recommended Pad Layout

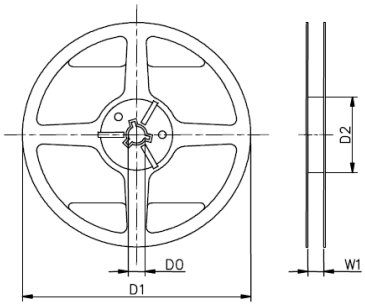
Symbol	Millimeters	Inches
X	1.3	0.051
X1	3.3	0.130
Y	1.8	0.071



Taping and Reel Specifications



SMD-tape according to IEC 60286-3



Symbol	Millimeters	Inches
W	12±0.3	0.472±0.012
A0	1.8±0.1	0.071±0.004
B0	3.4±0.1	0.134±0.004
K0	1.8±0.1	0.071±0.004
P	4.0±0.1	0.157±0.004
F	5.5±0.1	0.217±0.004
E	1.75±0.1	0.069±0.004
D	1.5+0.1/-0.0	0.059+0.004/-0.0
P0	4±0.1	0.157±0.004
P2	2±0.1	0.079±0.004
T	0.35±0.05	0.014±0.002
D0	13.3±0.15	0.524±0.006
D1	178±2	7.007±0.079
D2	60+1/-2	2.362+0.039/-0.079
W1	12.5±0.4	0.492±0.016

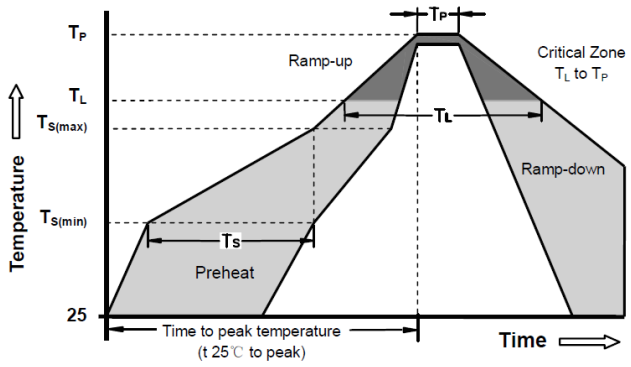
Packaging Quantity

2,000 PCS per reel (7”)

3 reels per inner box

6,000 PCS per inner box

Soldering Parameters - Reflow Soldering (Surface Mount Devices)



Reflow Condition		Pb - Free assembly
Pre Heat	-Temperature Min ($T_{s(min)}$)	150°C
	-Temperature Max ($T_{s(max)}$)	200°C
	-Time (min to max) (t_s)	60 -180 Seconds
Average ramp up rate (Liquids Temp T_L) to peak		3°C/second max
$T_{S(max)}$ to T_L - Ramp-up Rate		5°C/second max
Reflow	- Temperature (T_L) (Liquids)	217°C
	- Time (min to max) (t_s)	60 -150 Seconds
Peak Temperature (T_P)		260 +0/-5°C
Time within 5°C of actual peak Temperature (t_p)		10 - 30 Seconds
Ramp-down Rate		6°C/second max
Time 25°C to peak Temperature (T_P)		8 minutes Max
Do not exceed		260°C