



Cduwteve It describes characteristics' advantage of MB6A, structure graphics, compliant to surge standard test system, electrical characteristics index, 6KV lightning surge comparing test and related application.

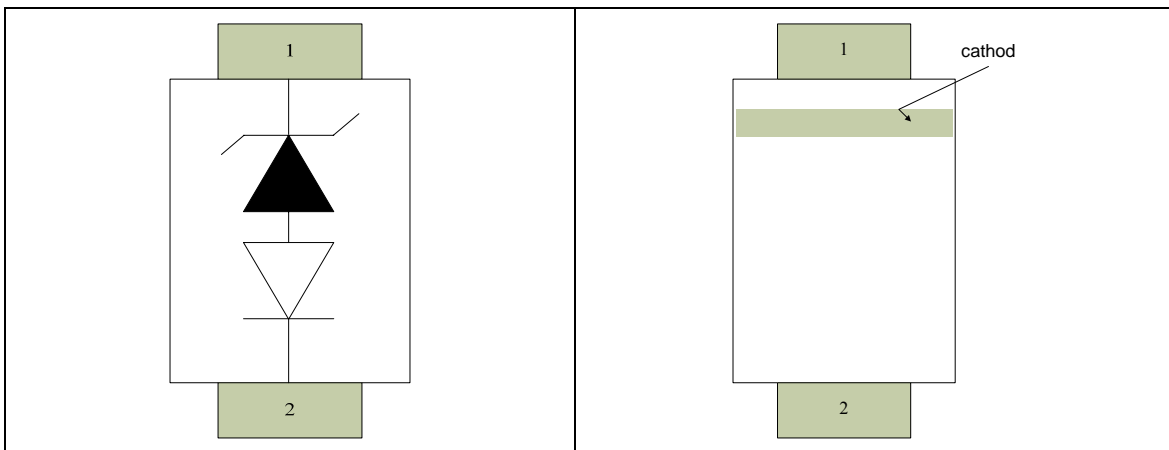
Mg{y qtf u SMB package, clamping voltage, comparing test, placement graphics

MB6A is a component of low profile package (SMB) and low capacitance instead of plated axial lead package SAC. It is easier for surface mounted using SMT machine. It has several advantages such as responding less than 1 picosecond, low clamping voltage and super low capacitance. Compared to TSS P0080SX series products which have disadvantage of high clamping voltage, MB6A can protect the next circuit directly.

MB6A's only disadvantage is that we should use two of them paralleled for bidirectional protection because it is unidirectional structure TVS.

Because MB6A responds very rapidly and lower clamping voltage, low capacitance, it is ideal for protecting communication I/O data line which has high frequency.

STRUCTURE GRAPHICS





STANDARDS COMPLIANCE

Standard	Peak Surge Voltage(V)	Voltage Waveform	Required Peak Current (A)	Current Waveform	Minimum serial Resistor to meet Standard(Ω)
GR-1089 Core Intrabuilding	—	—	150	2/10 μ S	—
			40	10/1000 μ S	
ITU-T-K20/K21	6000	10/700 μ S	100	5/310 μ S	40
ITU-T-K20 (IEC61000-4-2)	30000	1/30nS	ESD Contact Discharge		—
	30000	1/60nS	ESD Air Discharge		—
IEC61000-4-5	6000	10/700 μ S	100	5/310 μ S	40
	2000	1.2/50 μ S	150	8/20 μ S	12
FCC Part 68	—	—	90	10/160 μ S	—
			50	10/560 μ S	

SPECIFICATIONS

Part Number	$I_{RM}@V_{RM}$ MAX.		$I_{RM}@V_{RM}$ MAX.		$I_{RM}@V_{RM}$ MAX.		$I_{RM}@V_{RM}$ MAX.		$I_{RM}@V_{RM}$ MAX.	
	V	μ A	V	μ A	V	μ A	V	μ A	V	μ A
MB6A	5	200	4	50	3	10	2.5	5	1.5	1

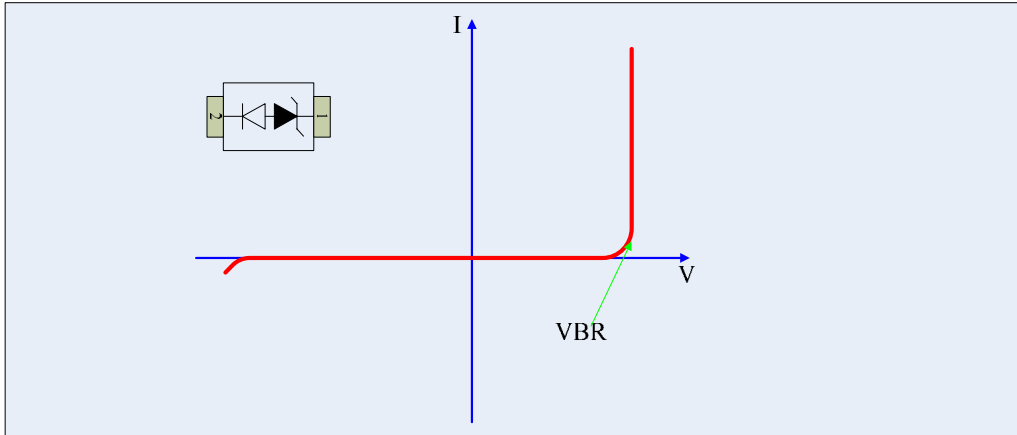
Part Number	V_{BR} Min @ I_t	I_t	V_C @ I_{PP}	I_{PP}	C_{type}
	V	mA	V	A	pF
MB6A	6	1	15	40	35

Note:

\bar{A}_{RM}	Reverse Stand-Off Voltage or Working Voltage	V_C	Maximum Clamping Voltage
\bar{I}_{RM}	Reverse Maximum Leakage	I_{UP}	Peak Pulse Current@10/1000 μ s Wave
V_{BR}	Breakdown Voltage @ 1mA	C_{type}	Capacitance



V-I CHARACTERISTICS



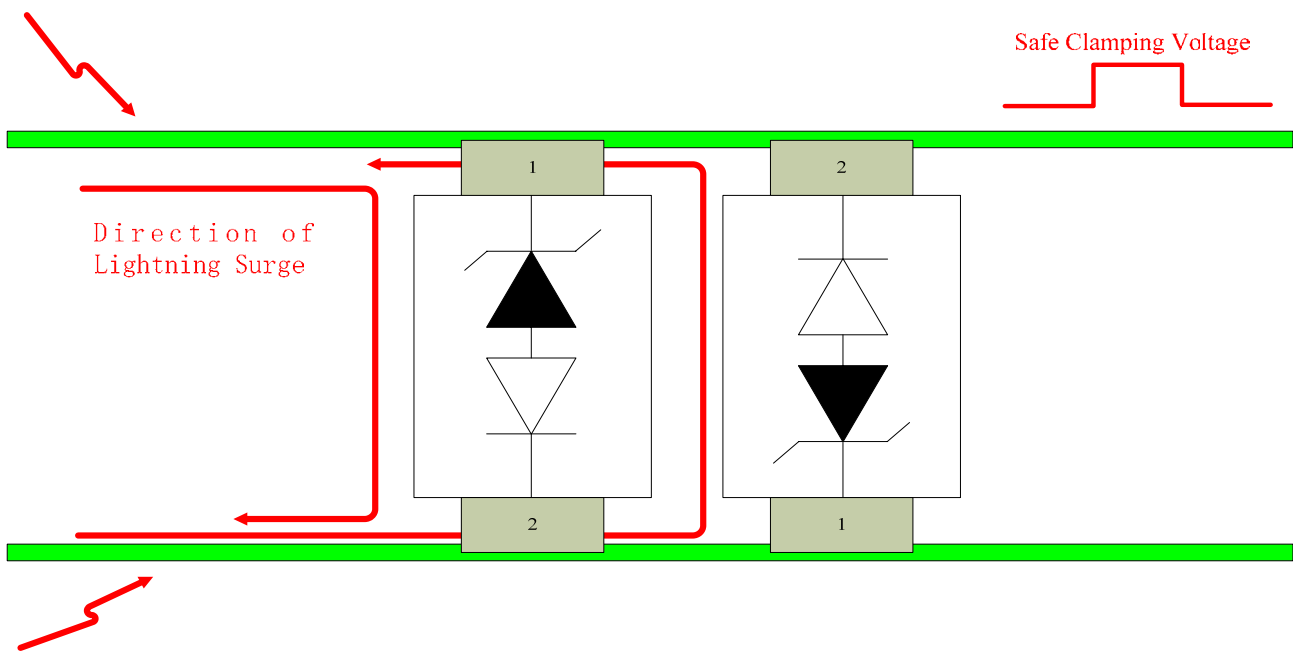
CLAMPING ABILITY

Compare OD8C and TSS P0080SX surge test, which is compliant with ITU K21 10/700μs 6KV lightning surge. Here are the results:

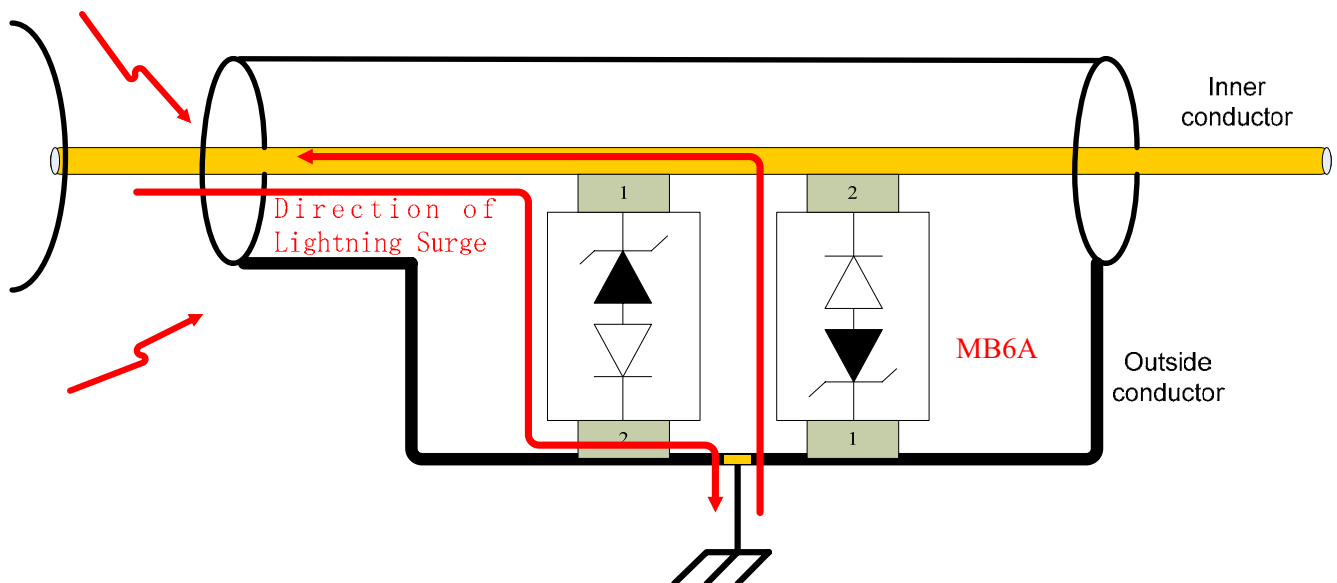
PART NUMBER	10/700μs 6KV lightning surge wave	Clamping Voltage Wave	Result
OD8C			Very low clamping voltage 13.2V, excellent clamping ability
P0080SX			Clamping voltage up to 82V, if the protected circuit's withstanding voltage is not enough, the protected chip is easy to be damaged

Because it responds very rapidly and lower clamping voltage, low capacitance, it is ideal for protecting communication I/O data line, which has high frequency, such as CATV, COAX, T1/E1, Line cards, I/O Interfaces Industrial and Consumer electronic applications.

1. Placement Graphics of Realizing Bidirectional Protection

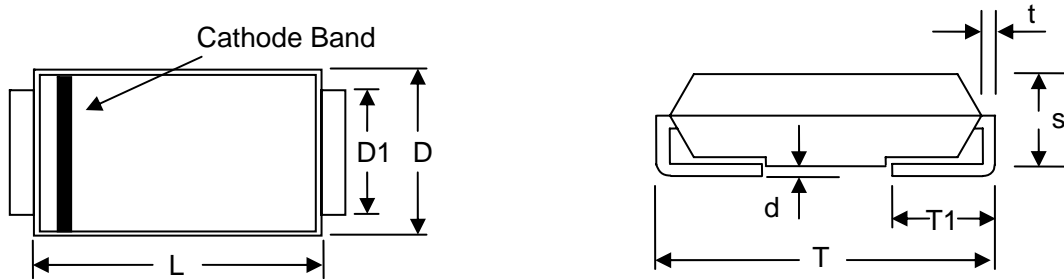


2. Graphics of Realizing Protection at COAX or CATV BNC





PACKAGE DIMENSIONS



SMB/DO-214AA

Item	Millimeters		Inches	
	Min.	Max.	Min.	Max.
L	4.06	4.57	0.160	0.180
D	3.30	3.94	0.130	0.155
D1	1.95	2.20	0.077	0.086
T	5.21	5.59	0.205	0.220
T1	0.76	1.52	0.030	0.060
d	-	0.203	-	0.008
s	2.13	2.47	0.084	0.097
t	0.152	0.305	0.006	0.012