

5KMC12AS ~ 5KMC100AS Series

Transient Voltage Suppressor

Voltage

12~100 V

Power

5000 W

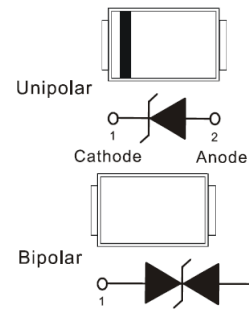
Features

- For surface mounted applications in order to optimize board space.
- Package suitable for automated handling
- Low inductance
- High temperature soldering : 260°C/10 seconds at terminals
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 standard

Mechanical Data

- Case : Molded plastic, SMC
- Terminals : Solderable per MIL-STD-750, Method 2026
- Approx. Weight : 0.2325 grams

SMC



Maximum Ratings and Thermal Characteristics (T_A = 25 °C unless otherwise noted)

PARAMETER	SYMBOL	LIMIT	UNITS
Peak Pulse Power Dissipation(tp = 10 / 1000 us) ^(Note 1,2)	P _{PP}	5000	W
Peak Pulse Current on tp = 10 / 1000 us waveform ^(Fig.2) (Note 1)	I _{PPM}	See table 1	A
Power Dissipation on Infinite Heat Sink at T _L = 50 °C	P _D	6.5	W
Peak Forward Surge Current (8.3ms single half sine-wave) for Unidirectional only	I _{FSM}	300	A
ESD IEC61000-4-2(Air)	V _{ESD}	±30	kV
ESD IEC61000-4-2(Contact)		±30	
Typical Thermal Resistance Junction to Ambient ^(Note 3)	R _{θJA}	125	°C/W
Operating Junction Temperature Range	T _J	-55~150	°C
Storage Temperature Range	T _{STG}	-55~150	°C

Notes :

1. Non-repetitive current pulse, per Fig.3 and derated above T_A=25°C per Fig.2
2. Mounted on 100cm² copper pads to each terminal
3. Mounted on a FR4 PCB, single-sided copper, standard footprint
4. Voltage of 12V~100V products's peak pulse power dissipation is 5000W. Bidirectional products 40V~58V are also 4500W.
5. A transient suppressor is selected according to the working peak reverse voltage(V_{RWM}), which should be equal to or greater than the DC or continuous peak operation voltage level.
6. TVS is a transient protection device, it is strongly recommended not to use as a Zener.

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Electrical Characteristics (T_A = 25 °C unless otherwise noted)

Part Number		V _{RWM}	V _{BR}			I _R @V _{RWM}		V _C @I _{PP}		Typical Temp. Coefficient of V _{BR}	Marking Code	
			Min.	Max.	I _T	uA						
UNI	BI	V	V	V	mA	UNI	BI	V	A	%/°C	UNI	BI
5KMC12AS	5KMC12CAS	12	13.3	14.7	10	5	5	19.9	252	0.062	5K12AS	5K12CAS
5KMC13AS	5KMC13CAS	13	14.4	15.9	10	5	5	21.5	233	0.063	5K13AS	5K13CAS
5KMC14AS	5KMC14CAS	14	15.6	17.2	10	5	5	23.2	216	0.065	5K14AS	5K14CAS
5KMC15AS	5KMC15CAS	15	16.7	18.5	1	5	5	24.4	205	0.066	5K15AS	5K15CAS
5KMC16AS	5KMC16CAS	16	17.8	19.7	1	5	5	26	193	0.067	5K16AS	5K16CAS
5KMC17AS	5KMC17CAS	17	18.9	20.9	1	5	5	27.6	181	0.068	5K17AS	5K17CAS
5KMC18AS	5KMC18CAS	18	20	22.1	1	5	5	29.2	172	0.069	5K18AS	5K18CAS
5KMC20AS	5KMC20CAS	20	22.2	24.5	1	5	5	32.4	155	0.069	5K20AS	5K20CAS
5KMC22AS	5KMC22CAS	22	24.4	26.9	1	5	5	35.5	141	0.07	5K22AS	5K22CAS
5KMC24AS	5KMC24CAS	24	26.7	29.5	1	5	5	38.9	129	0.071	5K24AS	5K24CAS
5KMC26AS	5KMC26CAS	26	28.9	31.9	1	5	5	42.1	119	0.071	5K26AS	5K26CAS
5KMC28AS	5KMC28CAS	28	31.1	34.4	1	5	5	45.4	110	0.071	5K28AS	5K28CAS
5KMC30AS	5KMC30CAS	30	33.3	36.8	1	5	5	48.4	103	0.072	5K30AS	5K30CAS
5KMC33AS	5KMC33CAS	33	36.7	40.6	1	5	5	53.3	93.9	0.073	5K33AS	5K33CAS
5KMC36AS	5KMC36CAS	36	40	44.2	1	5	5	58.1	86.1	0.073	5K36AS	5K36CAS
5KMC40AS	-	40	44.4	49.1	1	5	-	64.5	77.6	0.074	5K40AS	-
-	5KMC40CAS	40	44.4	49.1	1	-	5	64.5	69.8	0.074	-	5K40CAS
5KMC43AS	-	43	47.8	52.8	1	5	-	69.4	72.1	0.075	5K43AS	-
-	5KMC43CAS	43	47.8	52.8	1	-	5	69.4	64.8	0.075	-	5K43CAS
5KMC45AS	-	45	50	55.3	1	5	-	72.7	68.8	0.075	5K45AS	-
-	5KMC45CAS	45	50	55.3	1	-	5	72.7	61.9	0.075	-	5K45CAS
5KMC48AS	-	48	53.3	58.9	1	5	-	77.4	64.7	0.076	5K48AS	-
-	5KMC48CAS	48	53.3	58.9	1	-	5	77.4	58.1	0.076	-	5K48CAS
5KMC51AS	-	51	56.7	62.7	1	5	-	82.4	60.7	0.076	5K51AS	-
-	5KMC51CAS	51	56.7	62.7	1	-	5	82.4	54.6	0.076	-	5K51CAS
5KMC54AS	-	54	60	66.3	1	5	-	87.1	57.5	0.077	5K54AS	-
-	5KMC54CAS	54	60	66.3	1	-	5	87.1	51.7	0.077	-	5K54CAS
5KMC58AS	-	58	64.4	71.2	1	5	-	93.6	53.5	0.078	5K58AS	-
-	5KMC58CAS	58	64.4	71.2	1	-	5	93.6	48.1	0.078	-	5K58CAS
5KMC60AS	-	60	66.7	73.7	1	5	-	96.8	51.7	0.078	5K60AS	-
5KMC64AS	-	64	71.1	78.6	1	5	-	103	48.6	0.079	5K64AS	-
5KMC70AS	-	70	77.8	86	1	5	-	113	44.3	0.08	5K70AS	-
5KMC75AS	-	75	83.3	92.1	1	5	-	121	41.4	0.082	5K75AS	-
5KMC78AS	-	78	86.7	95.8	1	5	-	126	39.7	0.082	5K78AS	-
5KMC85AS	-	85	94.4	104	1	5	-	137	36.5	0.084	5K85AS	-
5KMC90AS	-	90	100	111	1	5	-	146	34.3	0.085	5K90AS	-
5KMC100AS	-	100	111	123	1	5	-	162	30.9	0.087	5K100AS	-

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TYPICAL CHARACTERISTIC CURVES

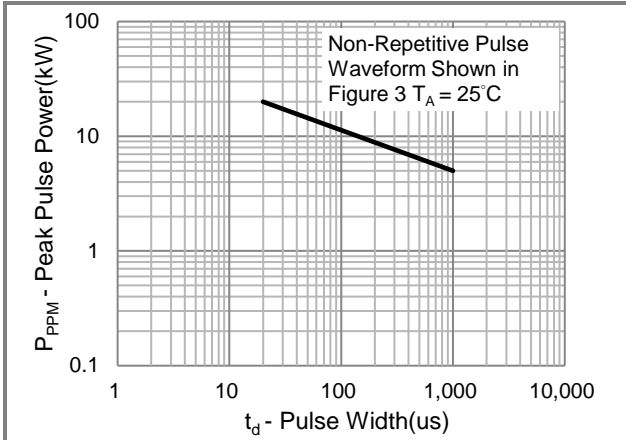


Fig.1 Pulse Power Rating Curve

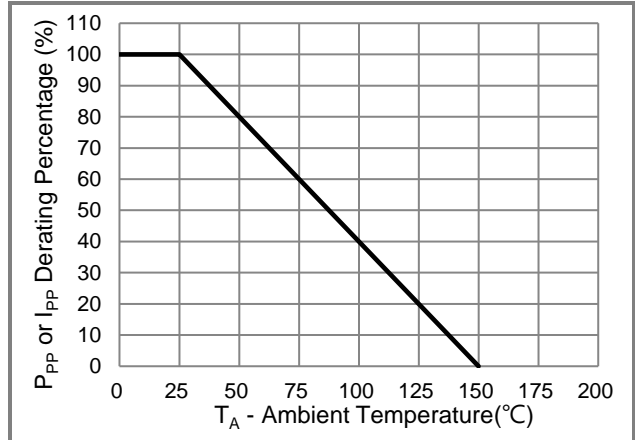


Fig.2 Derating Curve

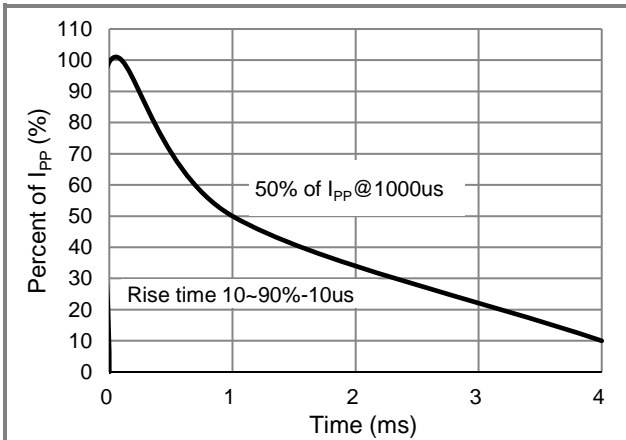


Fig.3 10/1000us Pulse Waveform

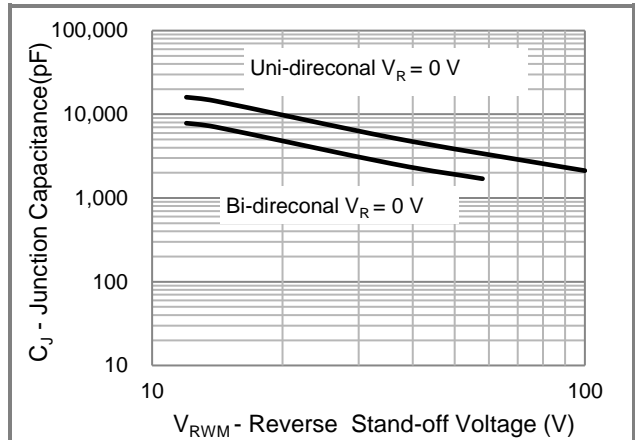


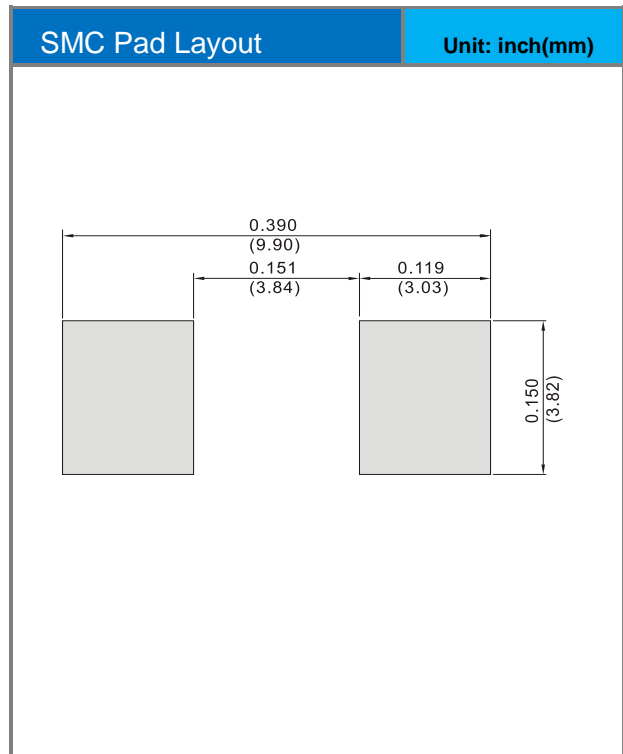
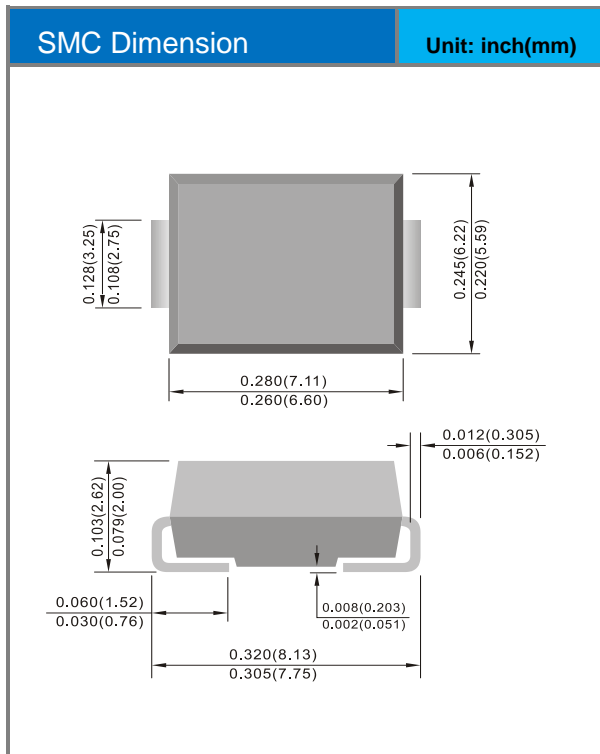
Fig.4 Typical Capacitance

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Product and Packing Information

Part No.	Package Type	Packing Type	Marking
5KMCxxxAS	SMC	0.8K pcs / 7" reel	See Table

Packaging Information & Mounting Pad Layout



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