



# 5KMC12AS-AU ~ 5KMC70AS-AU Series

## Transient Voltage Suppressor

**Voltage** 12~70 V **Power** 5000 W

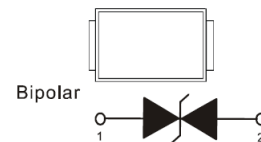
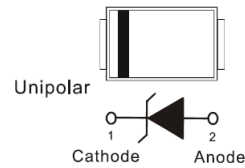
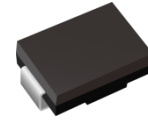
### Features

- ISO10605(C=330pF, R=330Ω): ±30kV Air, ±30kV Contact
- ISO7637-2<sup>(Note 1)</sup>:
  - Pulse 1:  $V_S = -150V$
  - Pulse 2a:  $V_S = +112V$
  - Pulse 3a:  $V_S = -220V$
  - Pulse 3b:  $V_S = +150V$
- High temperature soldering : 260°C/10 seconds at terminals
- AEC-Q101 qualified
- 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 : 0.0082 ounces, 0.2325 grams

SMC



## Maximum Ratings and Thermal Characteristics (T<sub>A</sub> = 25 °C unless otherwise noted)

PARAMETER	SYMBOL	LIMIT	UNITS
Peak Pulse Power Dissipation(tp = 10 / 1000 us) <sup>(Note 2,3)</sup>	P <sub>PP</sub>	5000	W
Power Dissipation on Infinite Heat Sink at T <sub>L</sub> = 50 °C	P <sub>D</sub>	6.5	W
Peak Pulse Current on tp = 10 / 1000 us waveform <sup>(Fig.2)</sup> (Note 2)	I <sub>PPM</sub>	See table 1	A
ESD IEC61000-4-2(Air)	V <sub>ESD</sub>	±30	kV
ESD IEC61000-4-2(Contact)		±30	
Typical Thermal Resistance Junction to Ambient <sup>(Note 4)</sup>	R <sub>θJA</sub>	125	°C/W
Operating Junction Temperature Range	T <sub>J</sub>	-55~150	°C
Storage Temperature Range	T <sub>STG</sub>	-55~150	°C

Note:

1. Not applicable to parts with V<sub>RWM</sub> lower than battery voltage
2. Non-repetitive current pulse, per Fig.3 and derated above T<sub>A</sub>=25°C per Fig.2
3. Mounted on 100cm<sup>2</sup> copper pads to each terminal
4. Mounted on a FR4 PCB, single-sided copper, standard footprint
5. To calculate V<sub>BR</sub> versus T<sub>J</sub> : V<sub>BR</sub> at T<sub>J</sub> = V<sub>BR</sub> at 25 °C x (1 + αT x (T<sub>J</sub> - 25))
6. To calculate V<sub>C</sub> versus T<sub>J</sub> : V<sub>C</sub> at T<sub>J</sub> = V<sub>C</sub> at 25 °C x (1 + αT x (T<sub>J</sub> - 25))



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### Electrical Characteristics (T<sub>A</sub> = 25 °C unless otherwise noted)

Part Number		V <sub>RWM</sub>	V <sub>BR</sub>			I <sub>R</sub> @ V <sub>RWM</sub>		V <sub>C@IPP</sub>		Typical Temp. Coefficient of V <sub>BR</sub>	Marking Code	
			Min.	Max.	I <sub>T</sub>	μA						
UNI	BI	V	V	V	mA	UNI	BI	V	A	%/°C	UNI	BI
5KMC12AS-AU	5KMC12CAS-AU	12	13.3	14.7	10	5	5	19.9	252	0.062	5K12AS	5K12CAS
5KMC13AS-AU	5KMC13CAS-AU	13	14.4	15.9	10	5	5	21.5	233	0.063	5K13AS	5K13CAS
5KMC14AS-AU	5KMC14CAS-AU	14	15.6	17.2	10	5	5	23.2	216	0.065	5K14AS	5K14CAS
5KMC15AS-AU	5KMC15CAS-AU	15	16.7	18.5	1	5	5	24.4	205	0.066	5K15AS	5K15CAS
5KMC16AS-AU	5KMC16CAS-AU	16	17.8	19.7	1	5	5	26	193	0.067	5K16AS	5K16CAS
5KMC17AS-AU	5KMC17CAS-AU	17	18.9	20.9	1	5	5	27.6	181	0.068	5K17AS	5K17CAS
5KMC18AS-AU	5KMC18CAS-AU	18	20	22.1	1	5	5	29.2	172	0.069	5K18AS	5K18CAS
5KMC20AS-AU	5KMC20CAS-AU	20	22.2	24.5	1	5	5	32.4	155	0.069	5K20AS	5K20CAS
5KMC22AS-AU	5KMC22CAS-AU	22	24.4	26.9	1	5	5	35.5	141	0.07	5K22AS	5K22CAS
5KMC24AS-AU	5KMC24CAS-AU	24	26.7	29.5	1	5	5	38.9	129	0.071	5K24AS	5K24CAS
5KMC26AS-AU	5KMC26CAS-AU	26	28.9	31.9	1	5	5	42.1	119	0.071	5K26AS	5K26CAS
5KMC28AS-AU	5KMC28CAS-AU	28	31.1	34.4	1	5	5	45.4	110	0.071	5K28AS	5K28CAS
5KMC30AS-AU	5KMC30CAS-AU	30	33.3	36.8	1	5	5	48.4	103	0.072	5K30AS	5K30CAS
5KMC33AS-AU	5KMC33CAS-AU	33	36.7	40.6	1	5	5	53.3	93.9	0.073	5K33AS	5K33CAS
5KMC36AS-AU	5KMC36CAS-AU	36	40	44.2	1	5	5	58.1	86.1	0.073	5K36AS	5K36CAS
5KMC40AS-AU	-	40	44.4	49.1	1	5	-	64.5	77.6	0.074	5K40AS	-
5KMC43AS-AU	-	43	47.8	52.8	1	5	-	69.4	72.1	0.075	5K43AS	-
5KMC45AS-AU	-	45	50	55.3	1	5	-	72.7	68.8	0.075	5K45AS	-
5KMC48AS-AU	-	48	53.3	58.9	1	5	-	77.4	64.7	0.076	5K48AS	-
5KMC51AS-AU	-	51	56.7	62.7	1	5	-	82.4	60.7	0.076	5K51AS	-
5KMC54AS-AU	-	54	60	66.3	1	5	-	87.1	57.5	0.077	5K54AS	-
5KMC58AS-AU	-	58	64.4	71.2	1	5	-	93.6	53.5	0.078	5K58AS	-
5KMC60AS-AU	-	60	66.7	73.7	1	5	-	96.8	51.7	0.078	5K60AS	-
5KMC64AS-AU	-	64	71.1	78.6	1	5	-	103	48.6	0.079	5K64AS	-
5KMC70AS-AU	-	70	77.8	86	1	5	-	113	44.3	0.08	5K70AS	-



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## TYPICAL CHARACTERISTIC CURVES

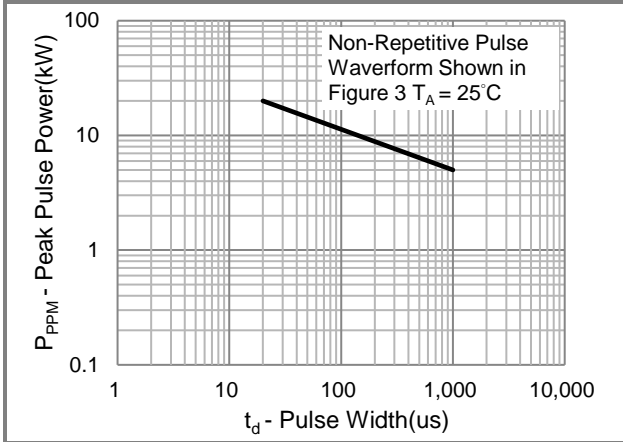


Fig.1 Pulse Power Rating Curve

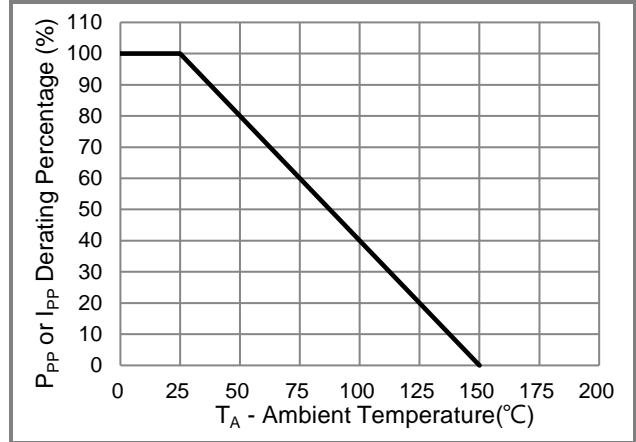


Fig.2 Derating Curve

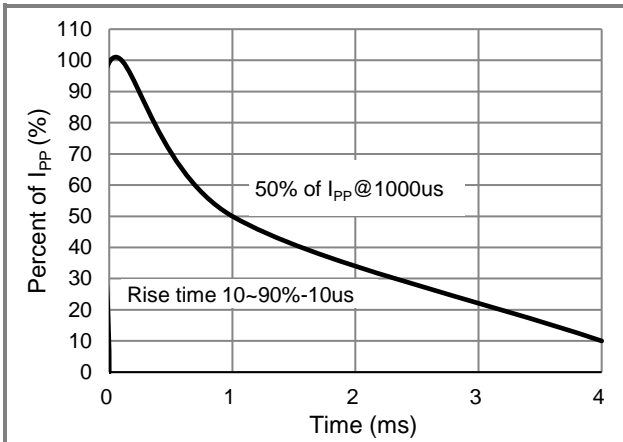


Fig.3 10/1000us Pulse Waveform

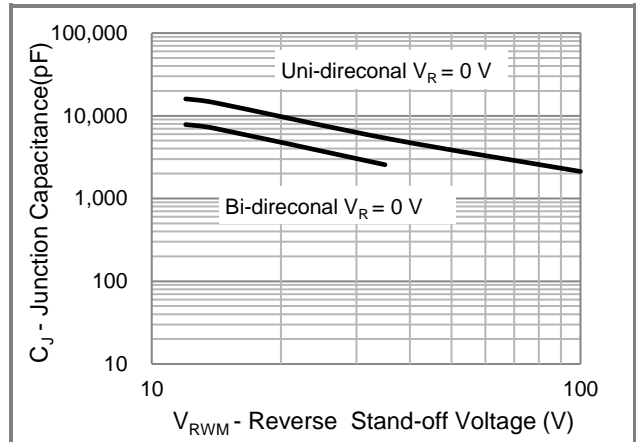


Fig.4 Typical Capacitance

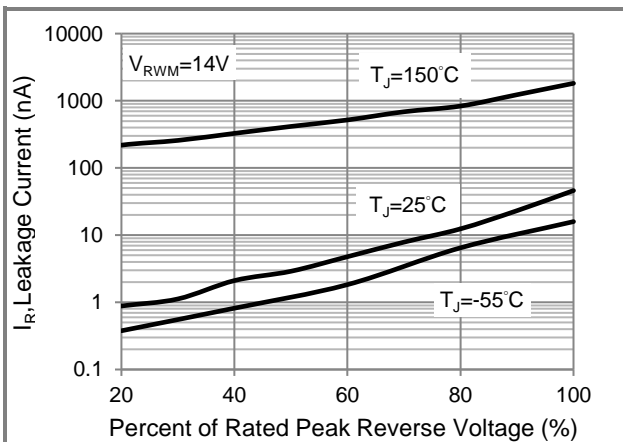


Fig.5 Typical Reverse Characteristics

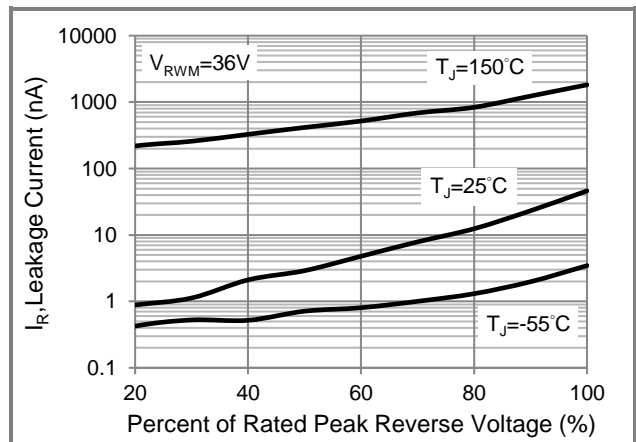


Fig.6 Typical Reverse Characteristics

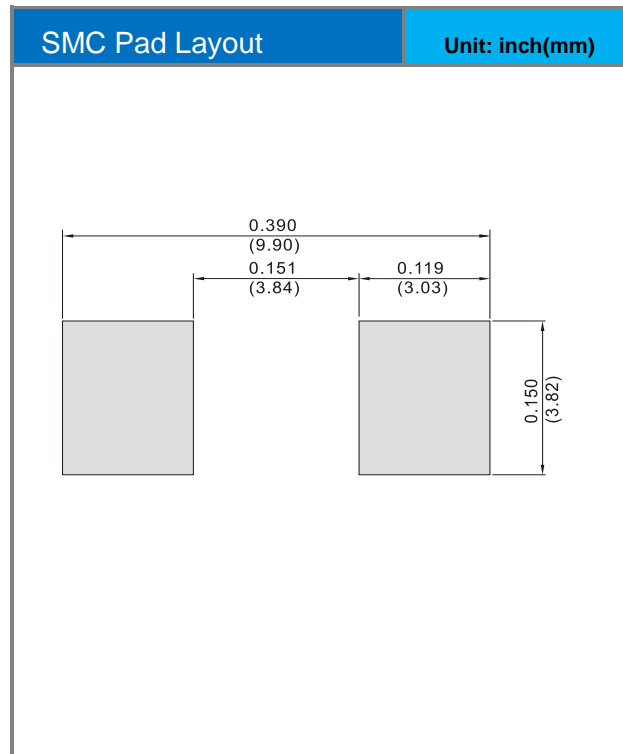
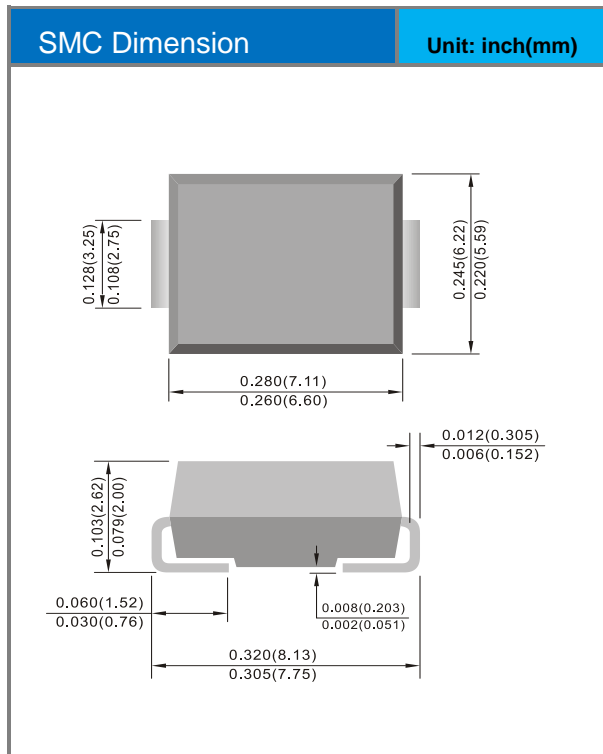


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Part No. Packing Code Version

Part No. Packing Code	Package Type	Packing Type	Marking	Version
5KMCxxxAS-AU_R1_000A1	SMC	0.8K pcs / 7" reel	See Table	Halogen free RoHS compliant

## Packaging Information & Mounting Pad Layout





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