

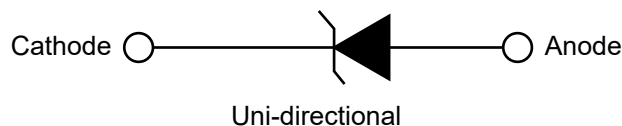
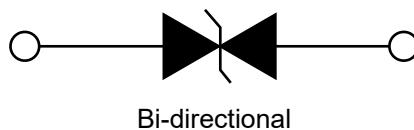
1.Features

- Low profile package
- Ideal for automated placement
- Glass passivated chip junction
- 400 W peak pulse power capability with a 10/1000 μ s waveform, repetitive rate (duty cycle): 0.01 % (300 W above 78 V)
- Available in uni-directional and bi-directional
- Excellent clamping capability
- Very fast response time
- Low incremental surge resistance
- Meets MSL level 3, per J-STD-020 LF maximum peak of 260 °C

2.Mechanical Data

- Terminals: Matte tin plated leads, solderable per J-STD-002 and JESD 22-B102 M3 suffix meets JESD 201 class 1A whisker test
- Polarity: For uni-directional types the band denotes cathode end, no marking on bi-directional types
- Case: DO-214AC (SMA)
Molding compound meets UL 94 V-0 flammability rating
Base P/N-E3 - RoHS compliant, commercial grade

3.Pinning information



SMA



4. Absolute Maximum Ratings ($T_A=25\text{ }^{\circ}\text{C}$ unless otherwise noted)

Parameter	Symbol	Value	Units
Peak power dissipation with a 10/1000 μs waveform ⁽¹⁾⁽²⁾ (fig. 1)	P_{PPM}	400	W
Peak pulse current with a 10/1000 μs waveform ⁽¹⁾	I_{PPM}	See next table	A
Peak forward surge current 8.3 ms single half sine-wave uni-directional only ⁽²⁾	I_{FSM}	40	A
Junction and storage temperature range	T_J, T_{STG}	-55 to 150	$^{\circ}\text{C}$
IEC 61000-4-2 ESD 30KV(Air), 30KV(contact)			

Notes:

(1) Non-repetitive current pulse, per fig. 3 and derated above $T_A=25\text{ }^{\circ}\text{C}$ per fig. 2. Rating is 300W above 78 V.

(2) Mounted on 0.2" x 0.2" (5.0 mm x 5.0 mm) copper pads to each terminal.



5. Electrical Characteristics ($T_A=25\text{ }^{\circ}\text{C}$ unless otherwise noted)

DEVICE TYPE	DEVICE MARKIN GCODE		BREAKDOWN VOLTAGE V_{BR} AT I_T ⁽¹⁾		TEST CURRENT	STAND-OFF VOLTAGE	MAXIMUM REVERSE LEAKAGE AT V_{WM}	MAXIMUM PEAK PULSE SURGE CURRENT	MAXIMUM CLAMPING VOLTAGE AT
			(V)		I_T	V_{WM}	I_D ⁽³⁾	I_{PPM} ⁽²⁾	I_{PPM}
	UNI	BI	MIN.	MAX.	(mA)	(V)	(μ A)	(A)	V_C (V)
SMAJ5.0A(CA)	AE	WE	6.40	7.07	10	5.0	800	43.5	9.2
SMAJ6.0A(CA)	AG	WG	6.67	7.37	10	6.0	800	38.8	10.3
SMAJ6.5A(CA)	AK	WK	7.22	7.98	10	6.5	500	35.7	11.2
SMAJ6.8A(CA)	6V8A	6V8C	6.45	7.14	10	5.80	1000	38.1	10.5
SMAJ7.0A(CA)	AM	WM	7.78	8.60	10	7.0	200	33.3	12.0
SMAJ7.5A(CA)	AP	WP	8.33	9.21	1.0	7.5	100	31.0	12.9
SMAJ8.0A(CA)	AR	WR	8.89	9.83	1.0	8.0	50	29.4	13.6
SMAJ8.5A(CA)	AT	WT	9.44	10.4	1.0	8.5	10	27.8	14.4
SMAJ9.0A(CA)	AV	WV	10.0	11.1	1.0	9.0	5.0	26.0	15.4
SMAJ10A(CA)	AX	WX	11.1	12.3	1.0	10	1.0	23.5	17.0
SMAJ11A(CA)	AZ	WZ	12.2	13.5	1.0	11	1.0	22.0	18.2
SMAJ12A(CA)	BE	XE	13.3	14.7	1.0	12	1.0	20.1	19.9
SMAJ13A(CA)	BG	XG	14.4	15.9	1.0	13	1.0	18.6	21.5
SMAJ14A(CA)	BK	XK	15.6	17.2	1.0	14	1.0	17.2	23.2
SMAJ15A(CA)	BM	XM	16.7	18.5	1.0	15	1.0	16.4	24.4
SMAJ16A(CA)	BP	XP	17.8	19.7	1.0	16	1.0	15.4	26.0
SMAJ17A(CA)	BR	XR	18.9	20.9	1.0	17	1.0	14.5	27.6
SMAJ18A(CA)	BT	XT	20.0	22.1	1.0	18	1.0	13.7	29.2
SMAJ20A(CA)	BV	XV	22.2	24.5	1.0	20	1.0	12.3	32.4
SMAJ22A(CA)	BX	XX	24.4	26.9	1.0	22	1.0	11.3	35.5
SMAJ24A(CA)	BZ	XZ	26.7	29.5	1.0	24	1.0	10.3	38.9
SMAJ26A(CA)	CE	YE	28.9	31.9	1.0	26	1.0	9.5	42.1



SMAJ28A(CA)	CG	YG	31.1	34.4	1.0	28	1.0	8.8	45.4
SMAJ30A(CA)	CK	YK	33.3	36.8	1.0	30	1.0	8.3	48.4
SMAJ33A(CA)	CM	YM	36.7	40.6	1.0	33	1.0	7.5	53.3
SMAJ36A(CA)	CP	YP	40.0	44.2	1.0	36	1.0	6.9	58.1
SMAJ40A(CA)	CR	YR	44.4	49.1	1.0	40	1.0	6.2	64.5
SMAJ43A(CA)	CT	YT	47.8	52.8	1.0	43	1.0	5.8	69.4
SMAJ45A(CA)	CV	YV	50.0	55.3	1.0	45	1.0	5.5	72.7
SMAJ48A(CA)	CX	YX	53.3	58.9	1.0	48	1.0	5.2	77.4
SMAJ51A(CA)	CZ	YZ	56.7	62.7	1.0	51	1.0	4.9	82.4
SMAJ54A(CA)	RE	ZE	60.0	66.3	1.0	54	1.0	4.6	87.1
SMAJ58A(CA)	RG	ZG	64.4	71.2	1.0	58	1.0	4.3	93.6
SMAJ60A(CA)	RK	ZK	66.7	73.7	1.0	60	1.0	4.1	96.8
SMAJ64A(CA)	RM	ZM	71.1	78.6	1.0	64	1.0	3.9	103
SMAJ70A(CA)	RP	ZP	77.8	86.0	1.0	70	1.0	3.5	113
SMAJ75A(CA)	RR	ZR	83.3	92.1	1.0	75	1.0	3.3	121
SMAJ78A(CA)	RT	ZT	86.7	95.8	1.0	78	1.0	3.2	126
SMAJ85A(CA)	RV	ZV	94.4	104	1.0	85	1.0	2.2	137
SMAJ90A(CA)	RX	ZX	100	111	1.0	90	1.0	2.1	146
SMAJ100A(CA)	RZ	ZZ	111	123	1.0	100	1.0	1.9	162
SMAJ110A(CA)	SE	VE	122	135	1.0	110	1.0	1.7	177
SMAJ120A(CA)	VG	VG	133	147	1.0	120	1.0	1.6	193
SMAJ130A(CA)	VK	VK	144	159	1.0	130	1.0	1.4	209
SMAJ150A(CA)	VM	VM	167	185	1.0	150	1.0	1.2	243
SMAJ160A(CA)	SP	VP	178	197	1.0	160	1.0	1.2	259
SMAJ170A(CA)	SR	VR	189	209	1.0	170	1.0	1.09	275
SMAJ188A(CA)	SS	VS	209	231	1.0	188	1.0	0.91	328

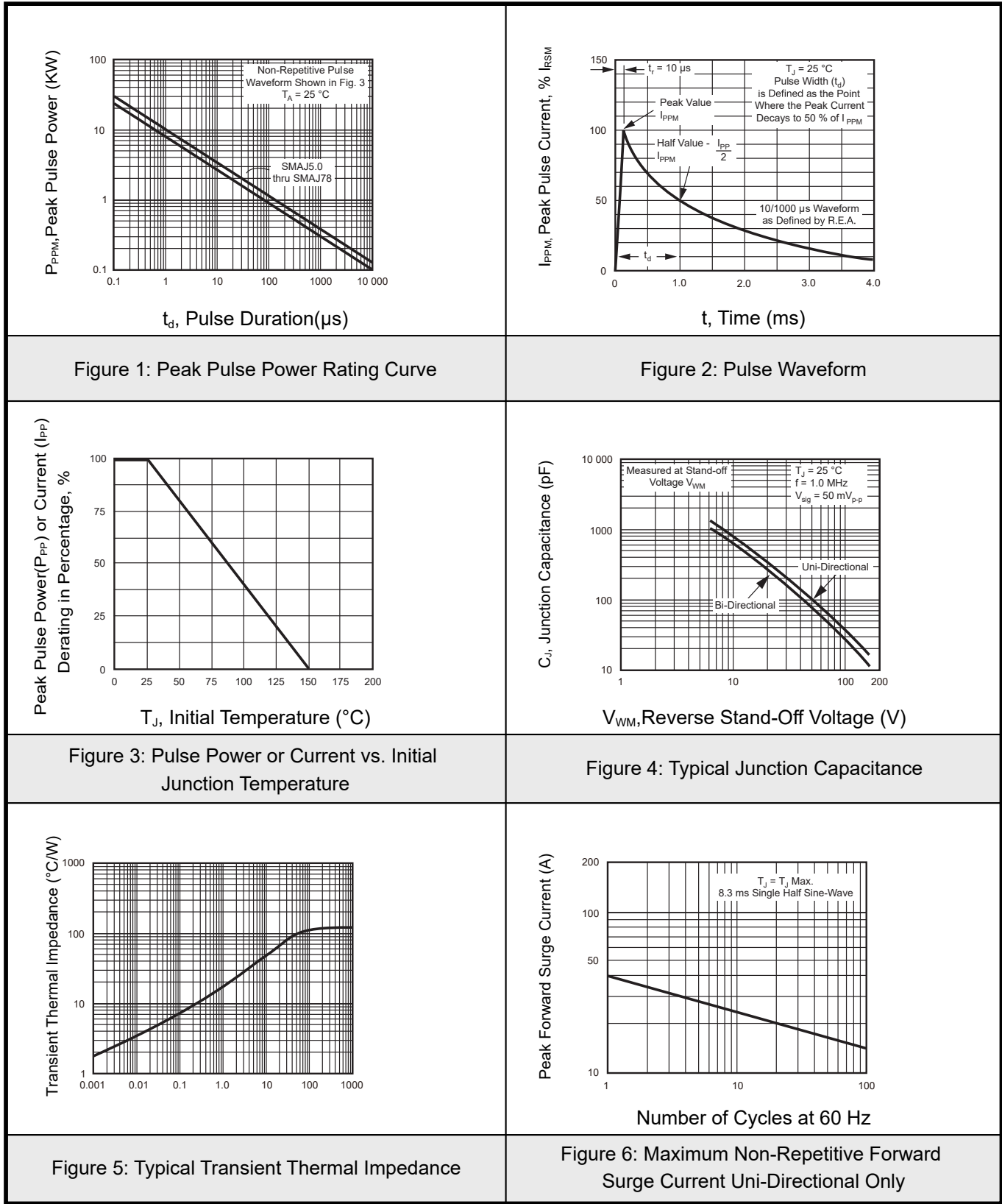


Notes:

- (1) Pulse test: $t_p \leq 50$ ms
- (2) Surge current waveform per fig. 3 and derate per fig. 2
- (3) For bi-directional types having V_{WM} of 10 V and less, the I_D limit is doubled
- (4) All terms and symbols are consistent with ANSI/IEEE C62.35
- (5) For the bi-directional SMAJ5.0CA, the maximum V_{BR} is 7.25 V
- (6) $V_F=3.5V$ at $I_F=25$ A (uni-directional only)

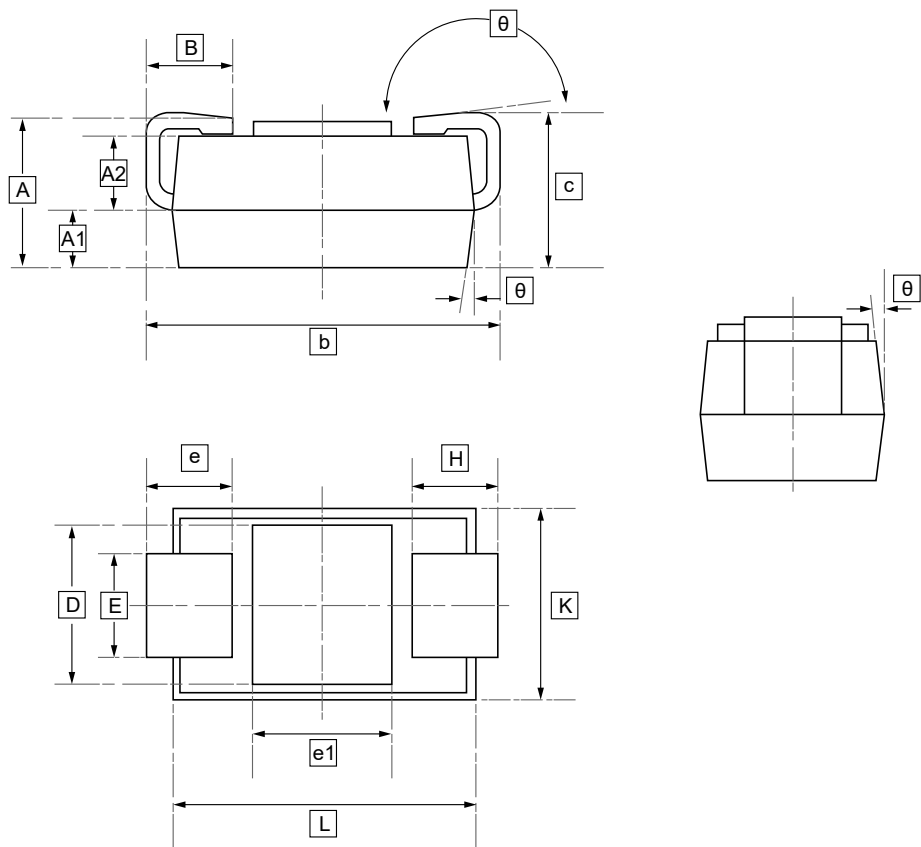


6. Typical characteristic





7.SMA Package Outline Dimensions



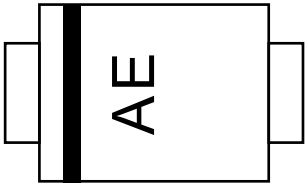
DIMENSIONS (mm are the original dimensions)

Symbol	A	A1	A2	B	b	c	D	E	e1	L	K	θ
Min	1.95	0.77	0.97	1.10	4.95	2.00	2.09	1.38	1.95	4.25	2.60	0°
Max	2.05	0.83	1.03	1.30	5.15	2.20	2.19	1.42	2.05	4.35	2.65	5°

Notes: e-H<0.15mm



8.Ordering information



Order Code	Marking	Package	Base QTY	Delivery Mode
UMW SMAJ5.0A	AE	SMA	1800	Tape and reel
UMW SMAJ5.0CA	WE	SMA	1800	Tape and reel
UMW SMAJ15A	BM	SMA	1800	Tape and reel
UMW SMAJ15CA	XM	SMA	1800	Tape and reel
UMW SMAJ188A	SS	SMA	1800	Tape and reel
UMW SMAJ188CA	VS	SMA	1800	Tape and reel
UMW SMAJ6.0CA	WC	SMA	1800	Tape and reel
UMW SMAJ6.5CA	WK	SMA	1800	Tape and reel
UMW SMAJ6.8CA	6V8C	SMA	1800	Tape and reel
UMW SMAJ12CA	XE	SMA	1800	Tape and reel
UMW SMAJ24A	BZ	SMA	1800	Tape and reel
UMW SMAJ24CA	ZX	SMA	1800	Tape and reel
UMW SMAJ26A	CE	SMA	1800	Tape and reel
UMW SMAJ28CA	YG	SMA	1800	Tape and reel
UMW SMAJ30CA	YK	SMA	1800	Tape and reel
UMW SMAJ33CA	YM	SMA	1800	Tape and reel
UMW SMAJ36CA	YP	SMA	1800	Tape and reel



9.Disclaimer

UMW reserves the right to make changes to all products, specifications. Customers should obtain the latest version of product documentation and verify the completeness and currency of the information before placing an order.

When applying our products, please do not exceed the maximum rated values, as this may affect the reliability of the entire system. Under certain conditions, any semiconductor product may experience faults or failures. Buyers are responsible for adhering to safety standards and implementing safety measures during system design, prototyping, and manufacturing when using our products to prevent potential failure risks that could lead to personal injury or property damage.

Unless explicitly stated in writing, UMW products are not intended for use in medical, life-saving, or life-sustaining applications, nor for any other applications where product failure could result in personal injury or death. If customers use or sell the product for such applications without explicit authorization, they assume all associated risks.

When reselling, applying, or exporting, please comply with export control laws and regulations of China, the United States, the United Kingdom, the European Union, and other relevant countries, regions, and international organizations.

This document and any actions by UMW do not grant any intellectual property rights, whether express or implied, by estoppel or otherwise. The product names and marks mentioned herein may be trademarks of their respective owners.