

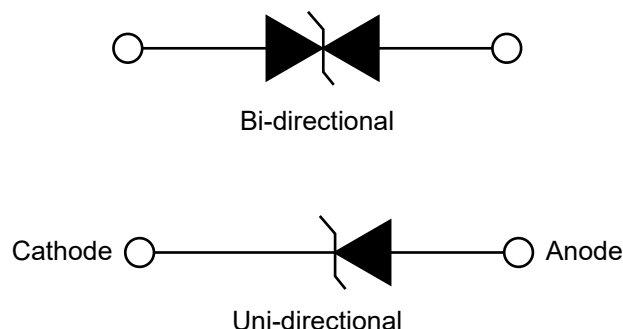
1.Features

- 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
Base P/NHE3 - RoHS compliant, AEC-Q101 qualified

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	$^{\circ}\text{C}$

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)	7V5A	7V5C	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	718	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

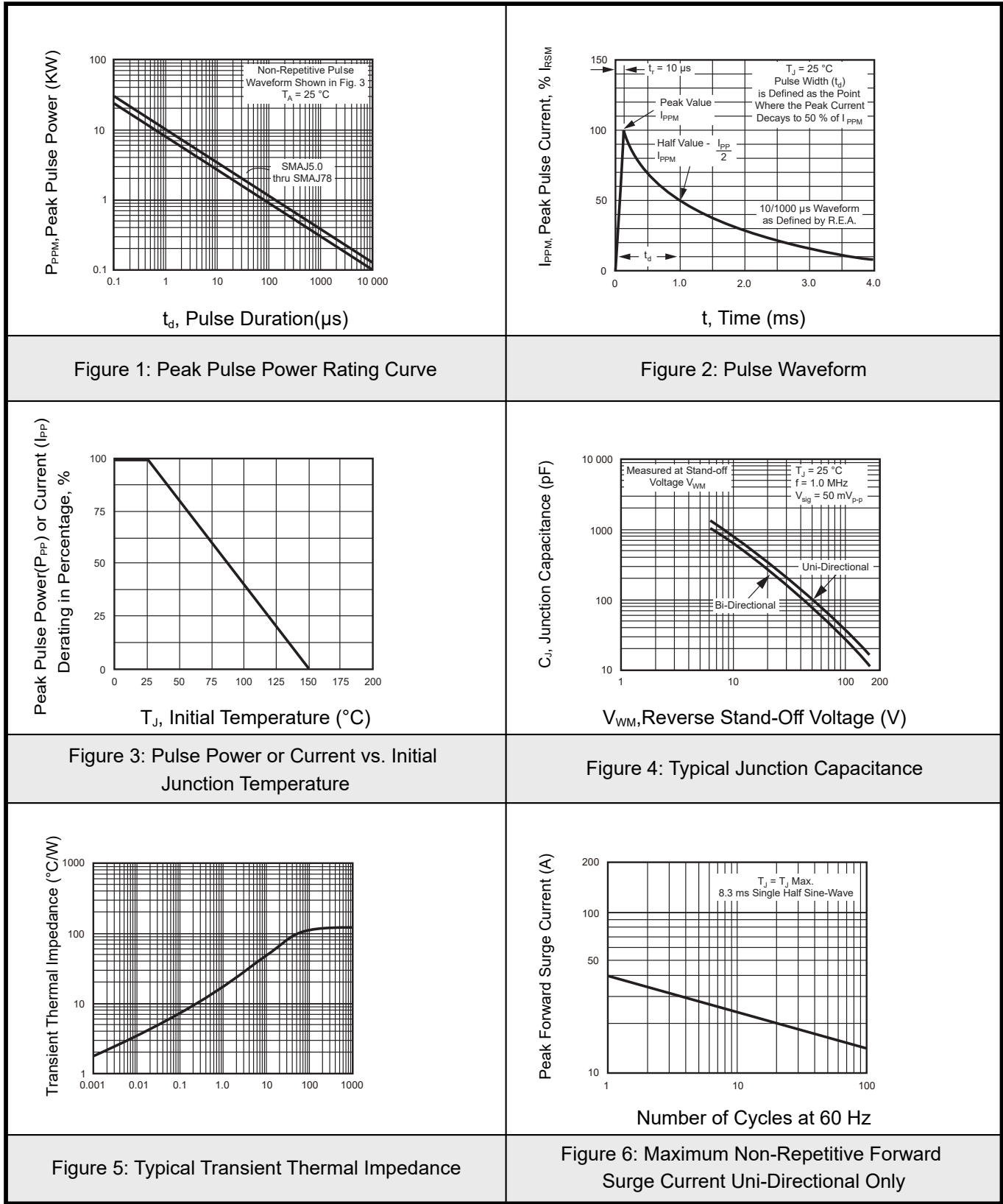


Notes:

- (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)

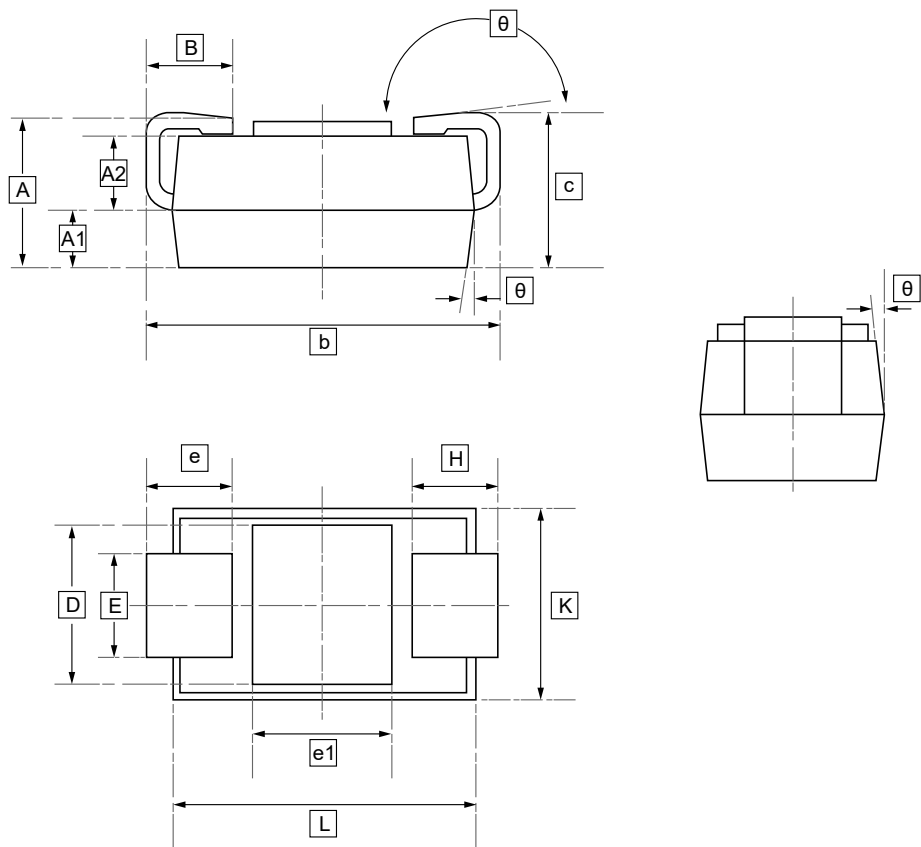


6. Typical characteristic





7.SMA Package Outline Dimensions



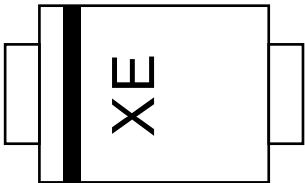
DIMENSIONS (mm are the original dimensions)

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	Package	Base QTY	Delivery Mode
UMW SMAJxxA	SMA	1800	Tape and reel
UMW SMAJxxCA	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.

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