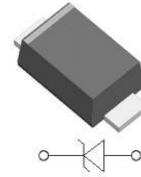


## Product : SMA6L AU Series

### Feature

- For surface mounted applications
- 600W peak pulse power capability on 10/1000 $\mu$ s waveform
- Excellent clamping capability
- Fast response time
- High temperature soldering guaranteed: 265 $^{\circ}$ C/10 seconds
- Component in accordance to RoHS
- AEC-Q101
- SMAF packaging

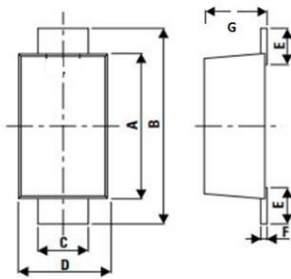
Uni-directional



Bi-directional



### Dimension Figure



Dimensions	Millimeters		Inches	
	Min	Max	Min	Max
A	4.2	4.4	0.165	0.173
B	5.2	5.4	0.205	0.213
C	1.3	1.5	0.051	0.059
D	2.55	0.75	0.100	0.108
E	1.0	1.1	0.039	0.043
F	0.12	0.18	0.005	0.007
G	1.0	1.1	0.039	0.043

### Maximum Ratings

Parameter	Symbol	Value	Unit
Peak Pulse Power Dissipation at $T_A=25^{\circ}$ C by 10x1000 $\mu$ s waveform	$P_{PPM}$	600	W
Power Dissipation on infinite heat sink at $T_A=50^{\circ}$ C	$P_{M(AV)}$	5	W
Peak Forward Surge Current, 8.3ms Single Half Sine Wave	$I_{FSM}$	100	A
Maximum Instantaneous Forward Voltage at 0.2A for Unidirectional	$V_F$	1.2	V
Operating Junction and Storage Temperature Range	$T_J, T_{STG}$	-55 to 150	$^{\circ}$ C
Typical Thermal Resistance Junction to Lead	$R_{\theta JL}$	20	$^{\circ}$ C/W
Typical Thermal Resistance Junction to Ambient	$R_{\theta JA}$	100	$^{\circ}$ C/W

Electrical Characteristics (Ta=25°C)

P/N		Marking		VR (V)	VBR @ IT (V)		IT (mA)	IR @ VR (μA)		Ipp (A)	VC@ Ipp (V)
Uni	Bi	Uni	Bi		MIN	MAX		Uni	Bi		
SMA6L5.0A-AU	SMA6L5.0CA-AU	AE	WE	5	6.4	7	10	800	800	65.3	9.2
SMA6L6.0A-AU	SMA6L6.0CA-AU	AG	WG	6	6.67	7.37	10	800	800	58.3	10.3
SMA6L6.5A-AU	SMA6L6.5CA-AU	AK	WK	6.5	7.22	7.98	10	500	500	53.6	11.2
SMA6L7.0A-AU	SMA6L7.0CA-AU	AM	WM	7	7.78	8.6	10	200	200	50	12
SMA6L7.5A-AU	SMA6L7.5CA-AU	AP	WP	7.5	8.33	9.21	1	100	100	46.6	12.9
SMA6L8.0A-AU	SMA6L8.0CA-AU	AR	WR	8	8.89	9.83	1	50	50	44.2	13.6
SMA6L8.5A-AU	SMA6L8.5CA-AU	AT	WT	8.5	9.44	10.4	1	20	20	41.7	14.4
SMA6L9.0A-AU	SMA6L9.0CA-AU	AV	WV	9	10	11.1	1	10	10	39	15.4
SMA6L10A-AU	SMA6L10CA-AU	AX	WX	10	11.1	12.3	1	5	5	35.3	17
SMA6L11A-AU	SMA6L11CA-AU	AZ	WZ	11	12.2	13.5	1	1	1	33	18.2
SMA6L12A-AU	SMA6L12CA-AU	BE	XE	12	13.3	14.7	1	1	1	30.2	19.9
SMA6L13A-AU	SMA6L13CA-AU	BG	XG	13	14.4	15.9	1	1	1	28	21.5
SMA6L14A-AU	SMA6L14CA-AU	BK	XK	14	15.6	17.2	1	1	1	25.9	23.2
SMA6L15A-AU	SMA6L15CA-AU	BM	XM	15	16.7	18.5	1	1	1	24.6	24.4
SMA6L16A-AU	SMA6L16CA-AU	BP	XP	16	17.8	19.7	1	1	1	23.1	26
SMA6L17A-AU	SMA6L17CA-AU	BR	XR	17	18.9	20.9	1	1	1	21.8	27.6
SMA6L18A-AU	SMA6L18CA-AU	BT	XT	18	20	22.1	1	1	1	20.6	29.2
SMA6L20A-AU	SMA6L20CA-AU	BV	XV	20	22.2	24.5	1	1	1	18.6	32.4
SMA6L22A-AU	SMA6L22CA-AU	BX	XX	22	24.4	26.9	1	1	1	16.9	35.5
SMA6L24A-AU	SMA6L24CA-AU	BZ	XZ	24	26.7	29.5	1	1	1	15.5	38.9
SMA6L26A-AU	SMA6L26CA-AU	CE	YE	26	28.9	31.9	1	1	1	14.3	42.1
SMA6L28A-AU	SMA6L28CA-AU	CG	YG	28	31.1	34.4	1	1	1	13.3	45.4
SMA6L30A-AU	SMA6L30CA-AU	CK	YK	30	33.3	36.8	1	1	1	12.4	48.4
SMA6L33A-AU	SMA6L33CA-AU	CM	YM	33	36.7	40.6	1	1	1	11.3	53.3
SMA6L36A-AU	SMA6L36CA-AU	CP	YP	36	40	44.2	1	1	1	10.4	58.1
SMA6L40A-AU	SMA6L40CA-AU	CR	YR	40	44.4	49.1	1	1	1	9.3	64.5
SMA6L43A-AU	SMA6L43CA-AU	CT	YT	43	47.8	52.8	1	1	1	8.7	69.4
SMA6L45A-AU	SMA6L45CA-AU	CV	YV	45	50	55.3	1	1	1	8.3	72.7
SMA6L48A-AU	SMA6L48CA-AU	CX	YX	48	53.3	58.9	1	1	1	7.8	77.4
SMA6L51A-AU	SMA6L51CA-AU	CZ	YZ	51	56.7	62.7	1	1	1	7.3	82.4
SMA6L54A-AU	SMA6L54CA-AU	RE	ZE	54	60	66.3	1	1	1	6.9	87.1
SMA6L58A-AU	SMA6L58CA-AU	RG	ZG	58	64.4	71.2	1	1	1	6.5	93.6
SMA6L60A-AU	SMA6L60CA-AU	RK	ZK	60	66.7	73.7	1	1	1	6.2	96.8
SMA6L64A-AU	SMA6L64CA-AU	RM	ZM	64	71.1	78.6	1	1	1	5.9	103
SMA6L70A-AU	SMA6L70CA-AU	RP	ZP	70	77.8	86	1	1	1	5.3	113
SMA6L75A-AU	SMA6L75CA-AU	RR	ZZ	75	83.3	92.1	1	1	1	5	121
SMA6L78A-AU	SMA6L78CA-AU	RT	ZT	78	86.7	95.8	1	1	1	4.8	126
SMA6L85A-AU	SMA6L85CA-AU	RV	ZV	85	94.4	104	1	1	1	4.4	137
SMA6L90A-AU	SMA6L90CA-AU	RX	ZX	90	100	111	1	1	1	4.1	146
SMA6L100A-AU	SMA6L100CA-AU	RZ	ZZ	100	111	123	1	1	1	3.7	162
SMA6L110A-AU	SMA6L110CA-AU	SE	VE	110	122	135	1	1	1	3.4	177
SMA6L120A-AU	SMA6L120CA-AU	SG	VG	120	133	147	1	1	1	3.1	193
SMA6L130A-AU	SMA6L130CA-AU	SK	VK	130	144	159	1	1	1	2.9	209
SMA6L150A-AU	SMA6L150CA-AU	SM	VM	150	167	185	1	1	1	2.5	243
SMA6L160A-AU	SMA6L160CA-AU	SP	VP	160	178	197	1	1	1	2.3	259
SMA6L170A-AU	SMA6L170CA-AU	SR	VR	170	189	209	1	1	1	2.2	275
SMA6L180A-AU	SMA6L180CA-AU	ST	VT	180	201	222	1	1	1	2.1	292
SMA6L185A-AU	SMA6L185CA-AU	SU	VU	185	209	231	1	1	1	2	303
SMA6L200A-AU	SMA6L200CA-AU	SV	VV	200	224	247	1	1	1	1.9	324
SMA6L220A-AU	SMA6L220CA-AU	SX	VX	220	246	272	1	1	1	1.7	356
SMA6L250A-AU	SMA6L250CA-AU	SZ	VZ	250	279	309	1	1	1	1.5	405

Ratings and Characteristic Curves (TA=25°C unless otherwise noted)

Figure 1 - Peak Pulse Power Rating Curve

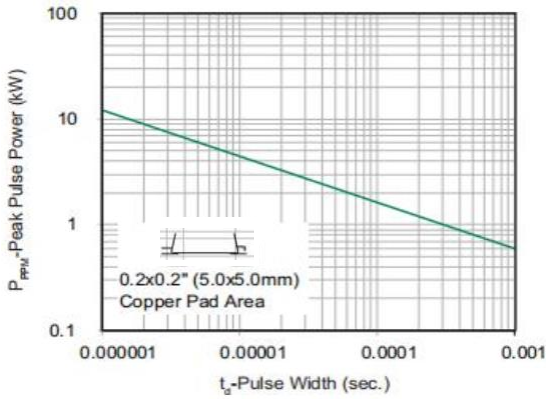


Figure 2 - Pulse Derating Curve

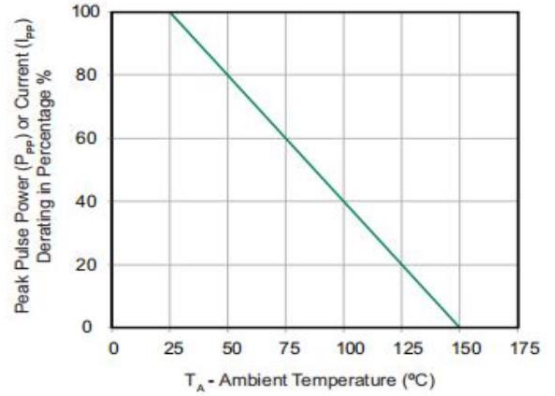


Figure 3 - Pulse Waveform

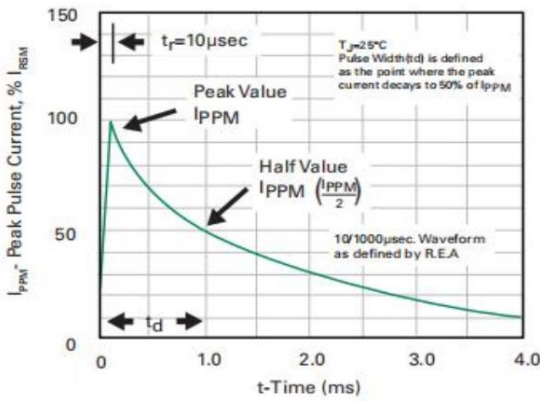


Figure 4 - Typical Junction Capacitance

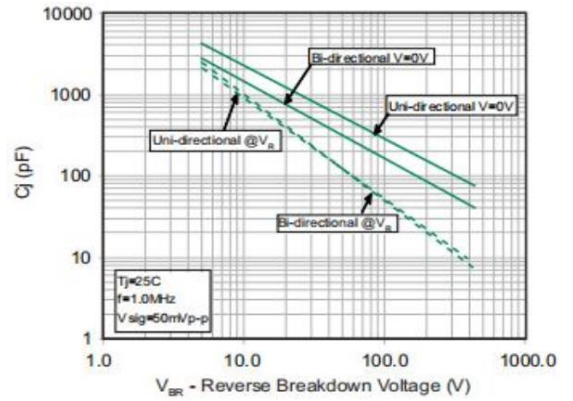


Figure 5 - Steady State Power Dissipation Derating Curve

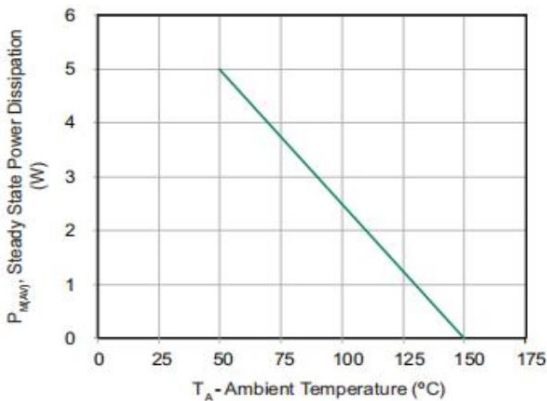
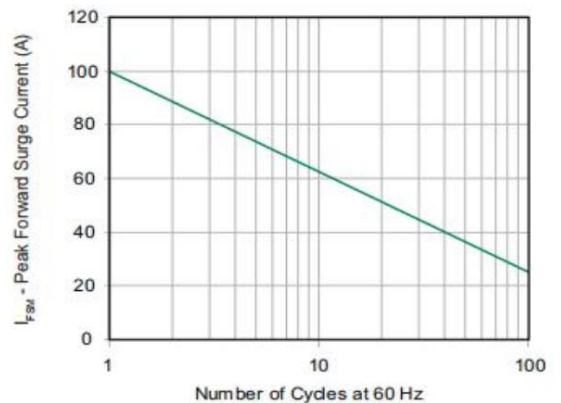


Figure 6 - Maximum Non-Repetitive Forward Surge Current Uni-Directional Only



## Notice

MOSPEC reserves the rights to make changes of the content herein the document anytime without notification. MOSPEC or anyone on its behalf, assumes no responsibility or liability for any errors or inaccuracies. Please refer to MOSPEC website for the last document.

MOSPEC disclaims any and all liability arising out of the application or use of any product including damages incidentally and consequentially incurred.

Application shown on the herein document are examples of standard use and operation. Customers are responsible for comprehending suitable use in particular applications. MOSPEC makes no representation or warranty that such application will be suitable for the specified use without further testing or modification.

The information contained herein is presented only as a guide for the applications of our products. No responsibility is assumed by MOSPEC for any infringements of patents or other rights of the third parties which may result from its use. No license is granted by implication or otherwise under any patent or patent rights of MOSPEC or others.

These MOSPEC products are intended for usage in general electronic equipment. Please make sure to consult with MOSPEC before you use these MOSPEC products in equipment which require specialized quality and/or reliability, and in equipment which could have major impact to the welfare of human life ( atomic energy control, aeronautics , traffic control, combustion control, safety devices etc.)

