

6.6KPXXCA Series

SURGE SUPPRESSOR

Features

- Junction passivation optimized design passivated anisotropic rectifier technology
- 6600W peak pulse power capability at 10×1000μs waveform.
- Very fast response time
- Meets MSL-1,per J-STD-020,LF maximum peak of 245°C
- AEC-Q101 qualified
- Compliant to RoHS directive 2002/96/EC

Mechanical Characteristics

- Case:DO-218AB
- Molding compound meets UL 94V-0 flammability rating
- Base P/NHE3-RoHS compliant,AEC-Q101 qualified
- Terminals:Matte tin plated leads,solderable per
- J-STD-002 and JESD22-B102

Schematic And Configuration



DO-218AB



Bi-directional

Symbol

Primary Characteristics	
V_R	12V to 36V
$P_{PPM} (10/1000\mu s)$	6600W
$P_{PPM} (10/10000\mu s)$	5200W
P_D	8W
T_{Jmax}	175°C

Absolute Maximum Ratings ($T_C=25^\circ C$, RH=45%-75%, unless otherwise noted)

Parameter	Symbol	Value	Unit
Peak pulse power dissipation on 10/1000μs waveform	P_{PP}	6600	W
Peak pulse power dissipation on 10/10000μs waveform		5200	W
Power dissipation on infinite heat sink at $T_C=25^\circ C$	P_D	8.0	W
Peak pulse current with 10/1000μs waveform	$I_{PPM}^{(1)}$	See next table	A
Operating junction and storage temperature range	T_J, T_{STG}	-55 to +175	°C
Typical thermal resistance, junction to case	$R_{\theta JC}$	0.9	°C/W

Note

(1) Non-repetitive current pulse derated above $T_A=25^\circ C$

Electrical Characteristics (Ta=25°C,unless otherwise noted)

Part Number	V _R	I _T	I _R @V _R		V _{BR} @I _T		V _C @I _{PP}	I _{PP}
Bi-polar	V	mA	μA@25°C	μA@175°C	min(V)	max (V)	V	A
6.6KP12CA	12.0	5	5	150	13.3	14.7	19.9	332
6.6KP13CA	13.0	5	5	150	14.4	15.9	21.5	307
6.6KP14CA	14.0	5	5	150	15.6	17.2	23.2	284
6.6KP15CA	15.0	5	5	150	16.7	18.5	24.4	270
6.6KP16CA	16.0	5	5	150	17.8	19.7	26.0	253
6.6KP17CA	17.0	5	5	150	18.9	20.9	27.6	239
6.6KP18CA	18.0	5	5	150	20.0	22.1	29.2	226
6.6KP20CA	20.0	5	5	150	22.2	24.5	32.4	204
6.6KP22CA	22.0	5	5	150	24.4	26.9	35.5	186
6.6KP24CA	24.0	5	5	150	26.7	29.5	38.9	170
6.6KP26CA	26.0	5	5	150	28.9	31.9	42.1	157
6.6KP28CA	28.0	5	5	150	31.1	34.4	45.4	145
6.6KP30CA	30.0	5	5	150	33.3	36.8	48.4	136
6.6KP33CA	33.0	5	5	150	36.7	40.6	53.3	124
6.6KP36CA	36.0	5	5	150	40.0	44.2	58.1	114

Note:

①.Surge waveform:10/1000μs

V_R: Stand-off voltage -- Maximum voltage that can be appliedV_{BR}: Breakdown voltageV_C: Clamping voltage -- Peak voltage measured across the suppressor at a specified I_{PP}I_R: Reverse leakage currentI_T: Test current

Ratings And Characteristics Curves ($T_A=25^{\circ}\text{C}$, unless otherwise noted)

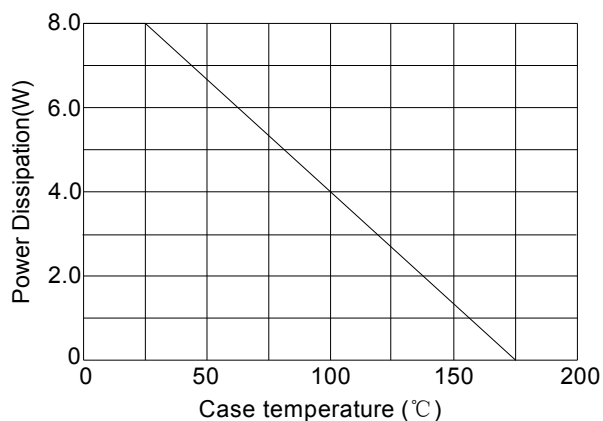


FIG.1: Power derating curve

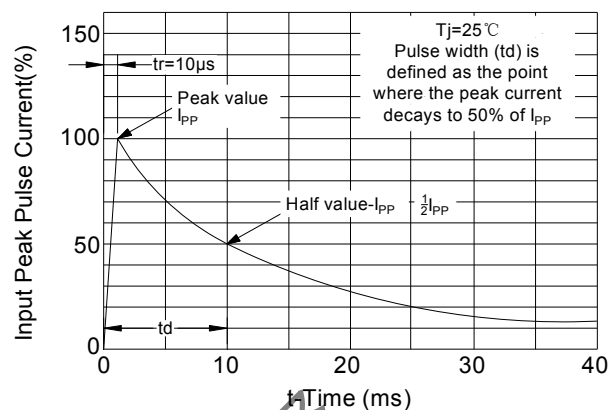


FIG.2: Pulse waveform

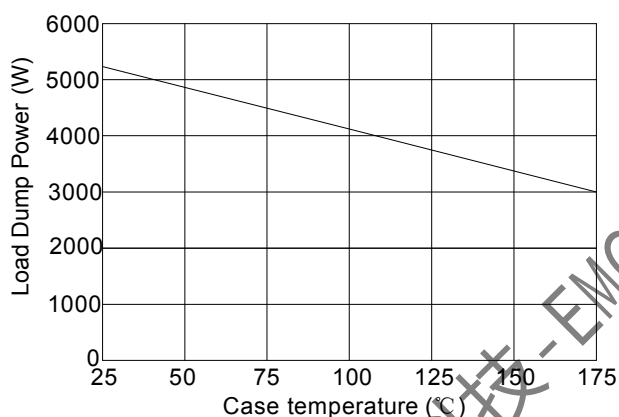


FIG.3: Load dump power characteristics (10ms exponential waveform)

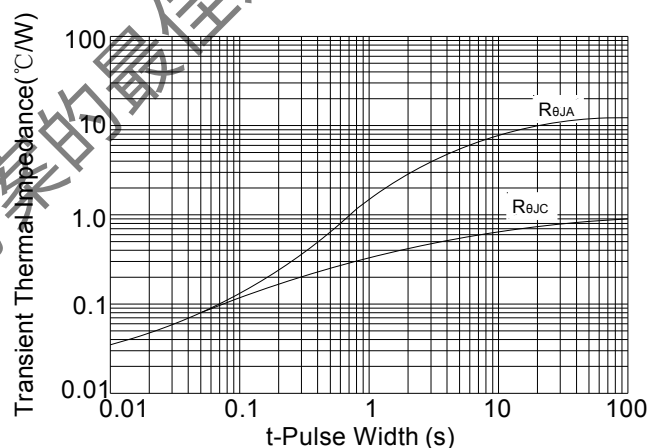


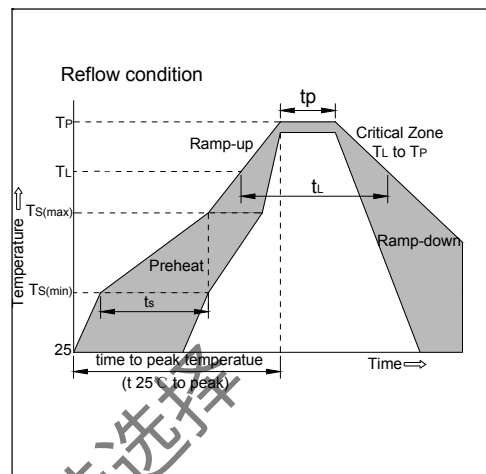
FIG.4: Typical Transient Thermal Impedance

Ordering Information

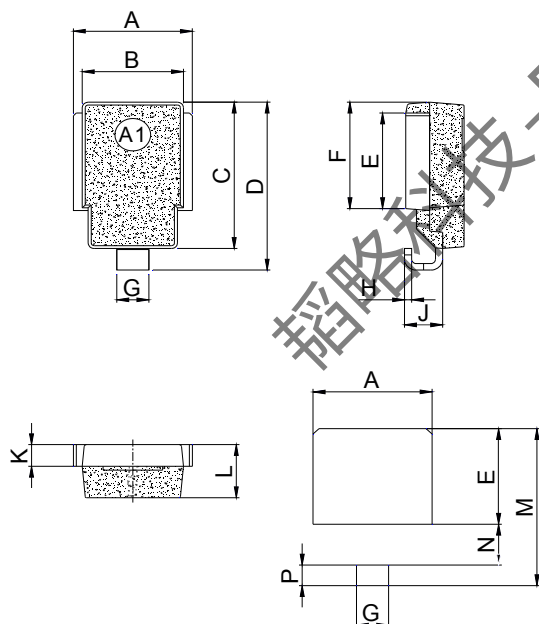
6.6KP 6600W@10/1000US	XX VR	CA bi-directional polarity
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Soldering Parameters

Reflow Condition		Pb-Free assembly (see figure at right)
Pre Heat	-Temperature Min ($T_{s(min)}$)	+150°C
	-Temperature Max($T_{s(max)}$)	+200°C
	-Time (Min to Max) (ts)	60-180 secs.
Average ramp up rate (Liquidus Temp (T_L) to peak)		3°C/sec. Max
$T_{s(max)}$ to T_L - Ramp-up Rate		3°C/sec. Max
Reflow	-Temperature(T_L)(Liquidus)	+217°C
	-Temperature(t_L)	60-150 secs.
Peak Temp (T_p)		+260(+0/-5)°C
Time within 5°C of actual Peak Temp (t_p)		20-40secs.
Ramp-down Rate		6°C/sec. Max
Time 25°C to Peak Temp (T_p)		8 min. Max
Do not exceed		+260°C



Package Mechanical Data



DO-218AB

Ref.	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	9.5	10.5	0.374	0.413
B	8.3	8.7	0.327	0.342
C	13.3	13.7	0.524	0.539
D	15.0	16.0	0.592	0.628
E	8.5	9.1	0.335	0.358
F	9.5	10.1	0.374	0.398
G	2.4	3.0	0.094	0.118
H	0.5	0.7	0.020	0.028
J	2.7	3.7	0.106	0.146
K	1.9	2.1	0.075	0.083
L	4.7	5.1	0.185	0.201
M	14.2	14.8	0.559	0.583
N	3.5	4.1	0.138	0.161
P	1.6	2.2	0.063	0.087

Contact Information

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