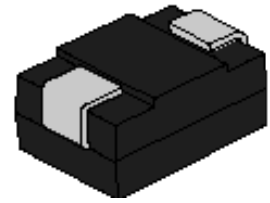


FEATURES:

- ✧ Excellent clamping capability.
- ✧ Low profile package and low inductance.
- ✧ High peak pulse power capability at 1.2/50 μ s&8/20 μ s waveform.
- ✧ Fast response time: typically less than 1.0ps from 0V to V_{BR} min.
- ✧ High temperature soldering: 260°C/40s at terminals.
- ✧ Plastic package has underwriters laboratory flammability 94V-0.
- ✧ For surface mounted applications in order to optimize board space.



SMB



Bi-directional

Symbol

Maximum Ratings & Thermal Characteristics :

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

Items	Symbol	Value	Unit
Peak pulse power (tp= 8/20 μ s)	P_{PPM}	30	KW
Peak pulse current (tp= 8/20 μ s)	I_{PPM}	780	A
Lead soldering temperature	T_L	260(10 sec)	$^\circ\text{C}$
Operating junction and storage temperature range	T_J, T_{STG}	-55 to +150	$^\circ\text{C}$

ELECTRICAL CHARACTERISTICS (T_A=25°C)

Part Number	V _R	I _R @V _R	V _{BR} @I _T		I _T	V _C @V _{PP} ^①	V _{PP} ^①
			min(V)	max(V)			
Bi-Polar	V	μA			mA	max(V)	V
LM1K24CA	24	1	25	29.5	1	35	2000

① Surge waveform: 1.2/50μs & 8/20μs

V_R: Stand-off voltage -- Maximum voltage that can be applied

V_{BR}: Breakdown voltage

V_C: Clamping voltage -- Peak voltage measured across the suppressor at a specified V_{PP}

I_R: Reverse leakage current

RATINGS AND V-I CHARACTERISTICS CURVES (T_A=25°C, unless otherwise noted)

FIG.1: V- I curve characteristics (Bi-directional)

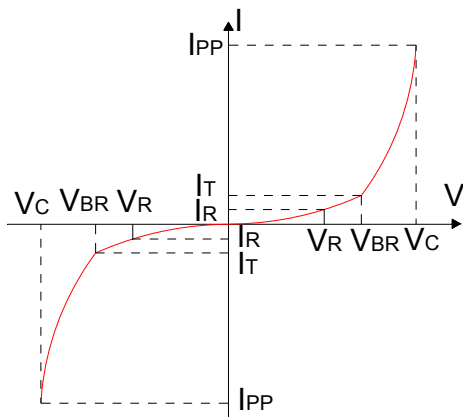
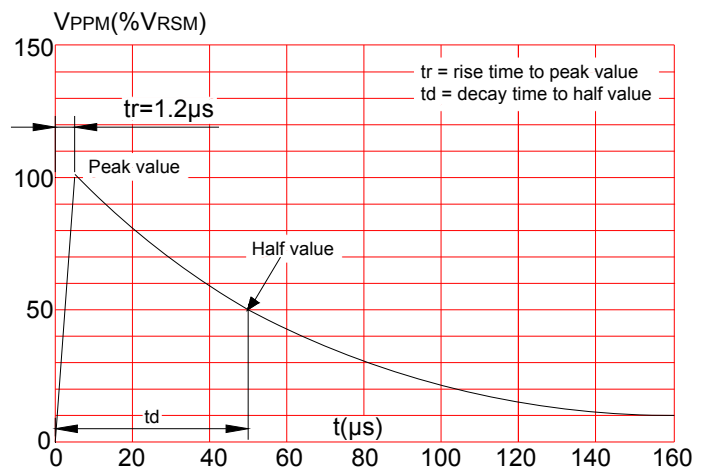
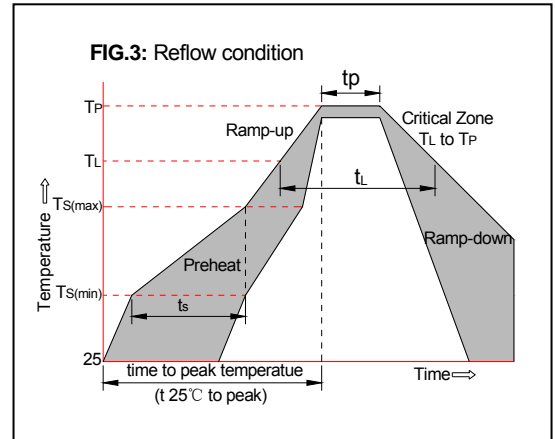


FIG.2: Pulse waveform

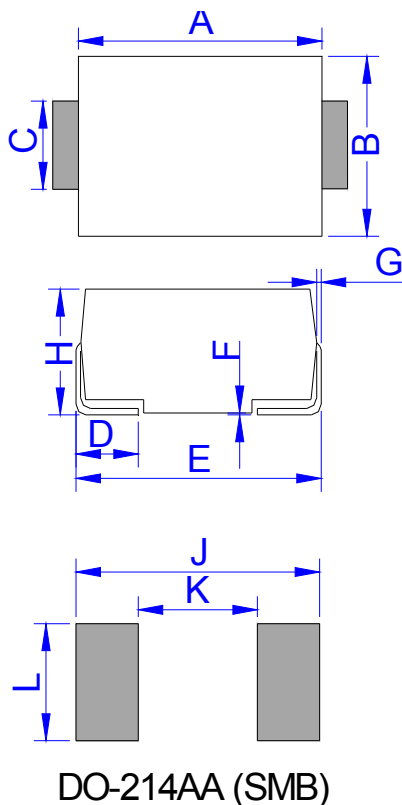


SOLDERING PARAMETERS

Reflow Condition		Pb-Free assembly (see FIG.3)
Pre Heat	-Temperature Min ($T_{s(min)}$)	+150°C
	-Temperature Max($T_{s(max)}$)	+200°C
	-Time (Min to Max) (t_s)	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

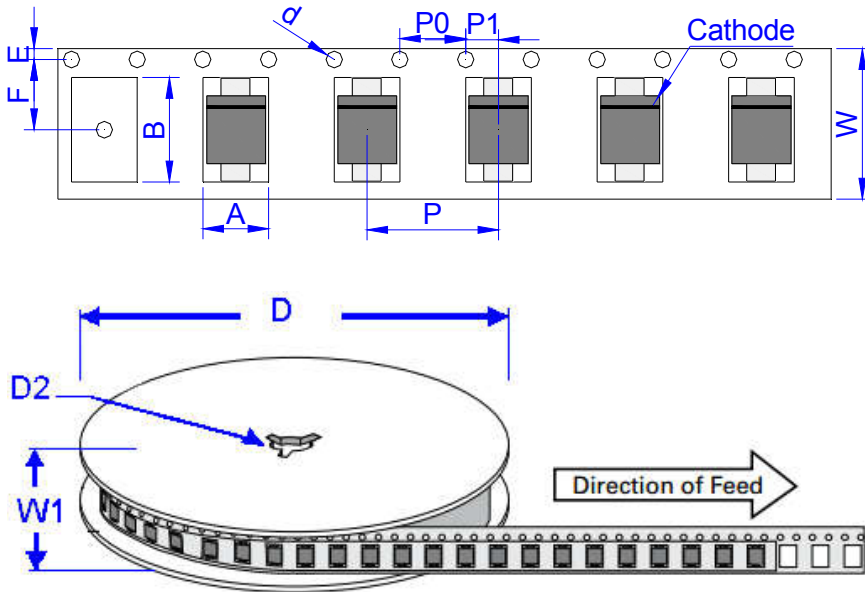


PACKAGE MECHANICAL DATA



Ref.	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	4.25	4.75	0.167	0.187
B	3.30	3.94	0.130	0.155
C	1.85	2.21	0.073	0.087
D	0.76	1.52	0.030	0.060
E	5.08	5.59	0.200	0.220
F	0.051	0.203	0.002	0.008
G	0.15	0.31	0.006	0.012
H	2.11	2.44	0.083	0.096
J	6.80		0.270	
K		2.60		0.100
L	2.40		0.090	

TAPE AND REEL SPECIFICATION-SMB



Ref.	Dimensions	
	Millimeters	Inches
A	3.76 ± 0.2	0.144 ± 0.012
B	5.69 ± 0.2	0.244 ± 0.012
d	1.5 ± 0.25	0.059 ± 0.004
D	330.0	13.0
D2	13 ± 1	0.512 ± 0.039
E	1.75 ± 0.2	0.059 ± 0.008
F	5.5 ± 0.1	0.222 ± 0.008
P	8.0 ± 0.2	0.315 ± 0.008
P0	4.0 ± 0.2	0.157 ± 0.008
P1	2.0 ± 0.2	0.079 ± 0.008
W	12.0 ± 0.3	0.472 ± 0.008
W1	16.8 ± 2.0	0.661 ± 0.079

OUTLINE	REEL (PCS)	PER CARTON (PCS)	REEL DIAMETERS (mm)
TAPING	3,000		330

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