LM-AZ3005-01G

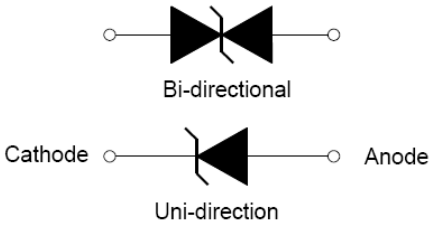
Transient Voltage Suppressor

DESCRIPTION:

TVS diodes can be used in a wide range of applications which like consumer electronic products, automotive industries, munitions, telecommunications, aerospace industries, and intelligent control systems.



SOD-123FL



FEATURES:

- ✧ Glass passivated or planar junction
- ✧ Excellent clamping capability
- ✧ Repetition rate (duty cycle): 0.01%
- ✧ Typical I_R less than 1μA above 10V.
- ✧ Low profile package and low inductance
- ✧ 200W Peak Pulse power capability at 10×1000μs waveform.
- ✧ Fast response time: typically less than 1.0ps from 0V to V_{BR} min.
- ✧ High temperature soldering: 260℃/10s at terminals.
- ✧ Plastic package has Underwriters Laboratory Flammability 94V-0.
- ✧ For surface mounted applications in order to optimize board space

ABSOLUTE MAXIMUM RATINGS (T_A=25ºC, RH=45%-75%, unless otherwise noted)

Parameter	Symbol	Value	Unit
Storage temperature range	T_{stg}	-55 to +125	℃
Operating junction temperature range	T_j	-55 to +125	℃
Steady state power dissipation at T_L=75℃	$P_{M(AV)}$	2.8	W
Peak pulse power dissipation on 10/1000μs waveform	P_{PP}	200	W
Maximum Instantaneous Forward Voltage at 20A for Unidirectional	V_F	5.0	V

ELECTRICAL CHARACTERISTICS (T_A=25℃)

Part Number	V_R	I_R@ V_R	V_{BR}@I_T		I_T	V_C@I_{PP}	I_{PP}①
Uni-Polar	V	μA	min(V)	max(V)	mA	max(V)	A
LM-AZ3005-01G	5.0	150	6.40	7.00	10	9.2	21.7

① Surge waveform:10/1000μs

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 I_{PP}

I_R: Reverse leakage current

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

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

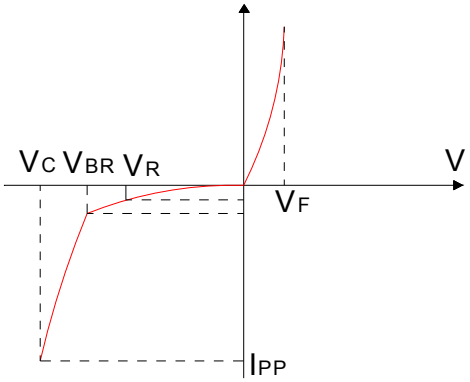


FIG.2:V- I curve characteristics (Bi-directional)

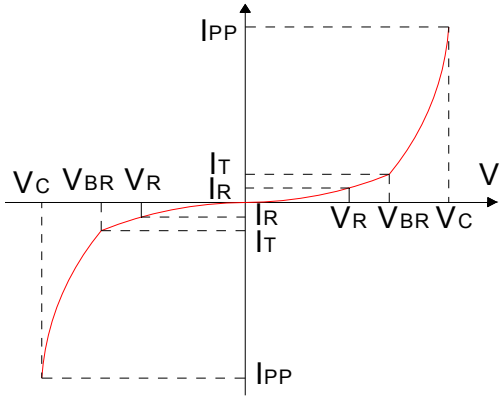


FIG.3: Pulse waveform

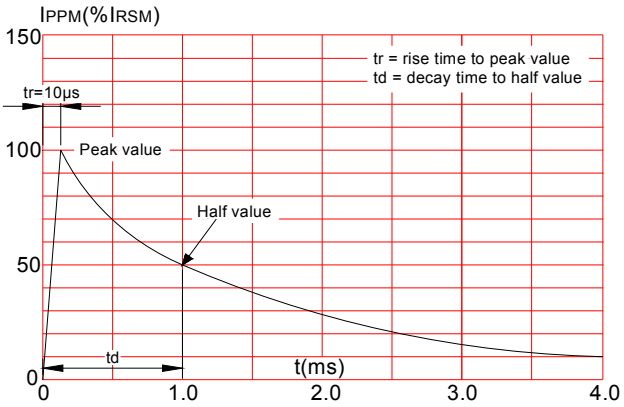
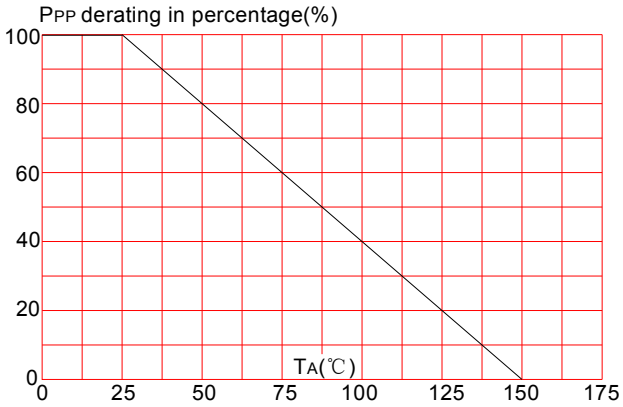


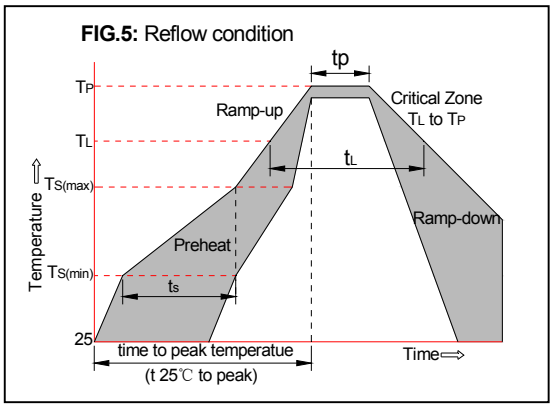
FIG.4: Pulse derating curve



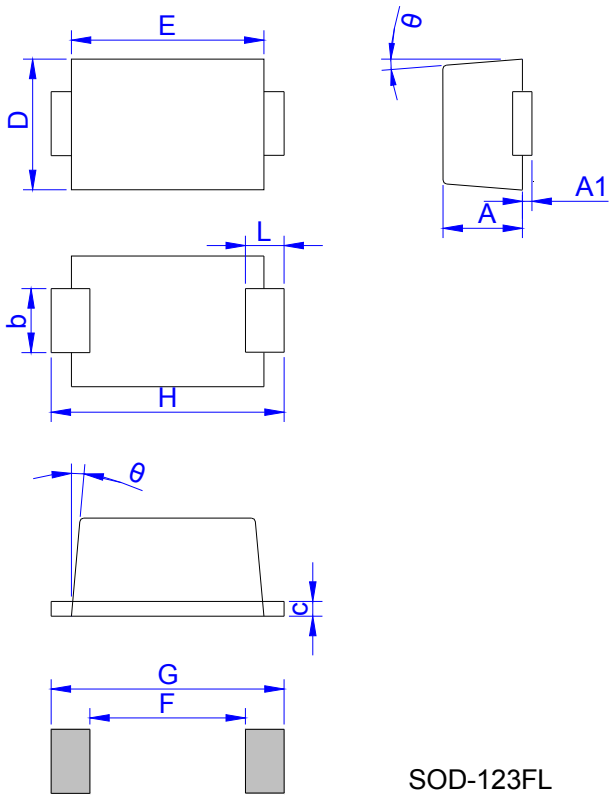
SOLDERING PARAMETERS

Reflow Condition		Pb-Free assembly (see FIG.5)
Pre Heat	-Temperature Min ($T_{s(min)}$)	+150℃
	-Temperature Max($T_{s(max)}$)	+200℃
	-Time (Min to Max) (ts)	60-180 secs.
Average ramp up rate (Liquid us Temp (T_L) to peak)		3℃/sec. Max
$T_{s(max)}$ to T_L - Ramp-up Rate		3℃/sec. Max
Reflow	-Temperature(T_L)(Liquid us)	+217℃
	-Temperature(t_L)	60-150 secs.
Peak Temp (T_p)		+260(+0/-5)℃
Time within 5℃ of actual Peak Temp (t_p)		30 secs. Max
Ramp-down Rate		6℃/sec. Max
Time 25℃ to Peak Temp (T_P)		8 min. Max
Do not exceed		+260℃

FIG.5: Reflow condition



PACKAGE MECHANICAL DATA



SOD-123FL

Ref.	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	0.90	1.40	0.035	0.055
A1	0	0.10	0	0.004
b	0.70	1.10	0.028	0.043
c	0.10	0.25	0.004	0.010
D	1.50	1.95	0.059	0.077
E	2.50	2.90	0.098	0.114
F	2.36	-	0.093	-
G	4.19	-	0.165	-
H	3.40	3.90	0.134	0.154
L	0.35	0.95	0.014	0.037
θ	0	8°	0	8°

PART No.	PACKAGE	QUANTITY	TAPE & REEL
LM-AZ3005-01G	SOD-123FL	3,000	13 inch

NOTICE

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