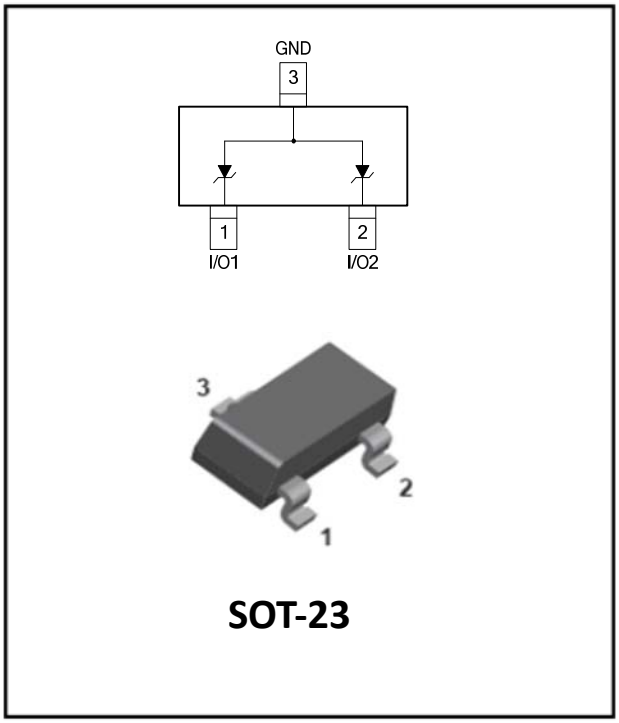
2-Line, Uni-directional, Transient Voltage Suppressor



Features

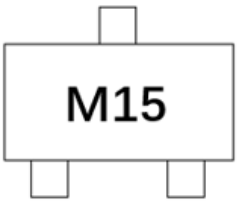
- Stand-off voltage:12V
- Transient protection for each line according to
  IEC61000-4-2(ESD): ±30kV (contact)
  IEC61000-4-5(surge): 1.9A (10/1000μs)
- Low leakage current:
- Ultra low clamping voltage
- RoHS Compliant

Applications

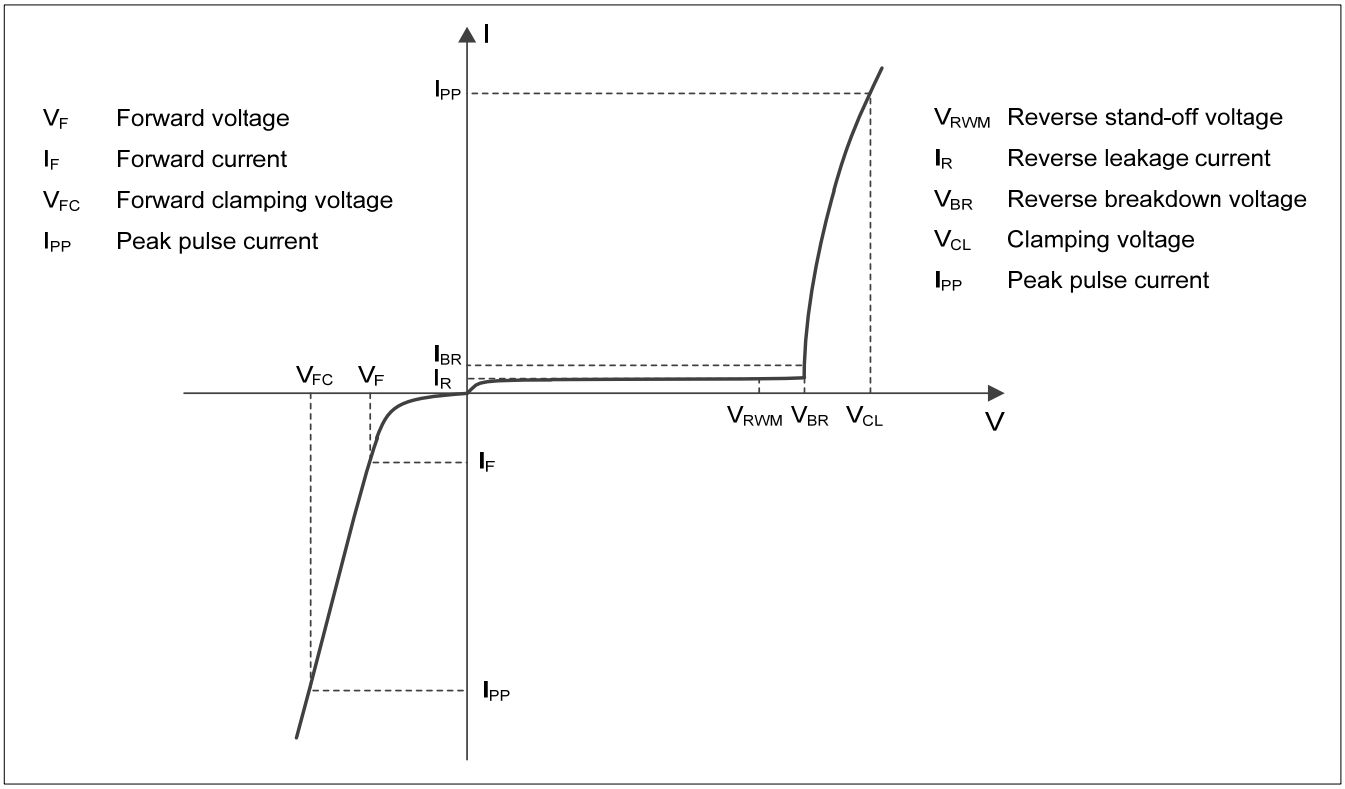
- Cellular Handsets and Accessories
- Notebooks and Handhelds
- Portable Instrumentation
- Set Top Box
- Industrial Controls
- Server and Desktop PC

Mechanical Data

- Package: SOT-23
- Lead Finish: Matte Tin
- Case Material: “Green” Molding Compound
- Moisture Sensitivity: Level 1 per J-STD-020
- Marking Information: See Below



■Definitions of electrical characteristics



■Maximum Ratings

PARAMETER	SYMBOL	LIMITS	UNIT
Peak pulse power (tp = 10/1000μs)	P_{pk}	39.9	W
Peak pulse current (tp = 10/1000μs)	I_{PP}	1.9	A
ESD according to IEC61000-4-2 air discharge	V_{ESD}	±30	KV
ESD according to IEC61000-4-2 contact discharge		±30	
Junction temperature	T_J	-55~150	ºC
Storage temperature	T_{STG}	-55~150	ºC

■Electrical Characteristics（T_a=25℃ Unless otherwise specified）

PARAMETER	Symbol	UNIT	Conditions	Min	Typ	Max
Reverse maximum working voltage	V_{RWM}	V				12
Reverse leakage current	I_R	nA	V_{RWM} = 12V			50
Reverse breakdown voltage	V_{BR}	V	I_{BR} = 1mA	14.25		15.75
Clamping voltage [2)]	V_{CL}	V	I_{PP} = 1.9A, t_p = 10/1000μs			21
Junction Capacitance	CJ	pF	VR=0V,f=1MHz		95	

Notes:
(1). TLP parameter: Z_0 = 50Ω, t_p = 100ns, t_r = 2ns, averaging window from 60ns to 80ns. R_{DYN} is calculated from 4A to 16A.
(2). Non-repetitive current pulse, according to IEC61000-4-5.

■Ordering Information (Example)

PREFERED P/N	PACKING CODE	UNIT WEIGHT(mg)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
MMBZ15VA	F2	Approximate 10	3000	30000	120000	7” reel

■ Characteristics (Typical)

Fig1: Pulse Waveform

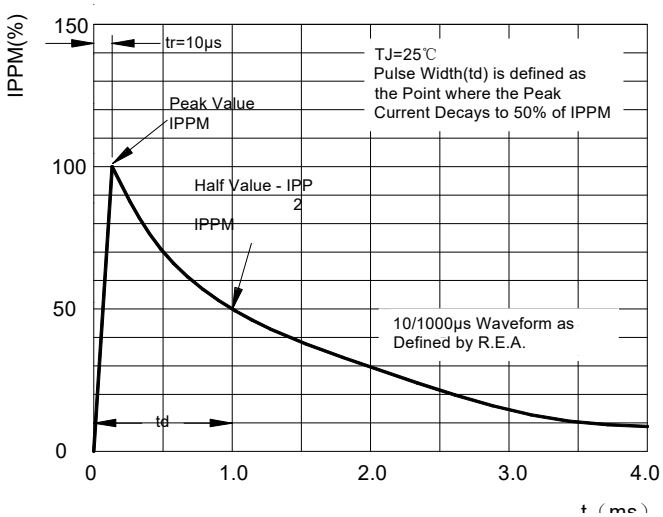


Fig 2:Contact discharge current waveform per IEC61000-4-2

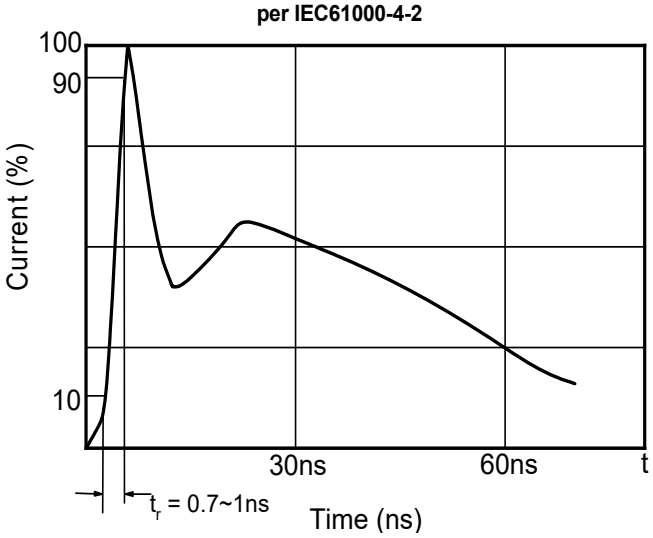


Fig3： Clamping voltage vs. Peak pulse current

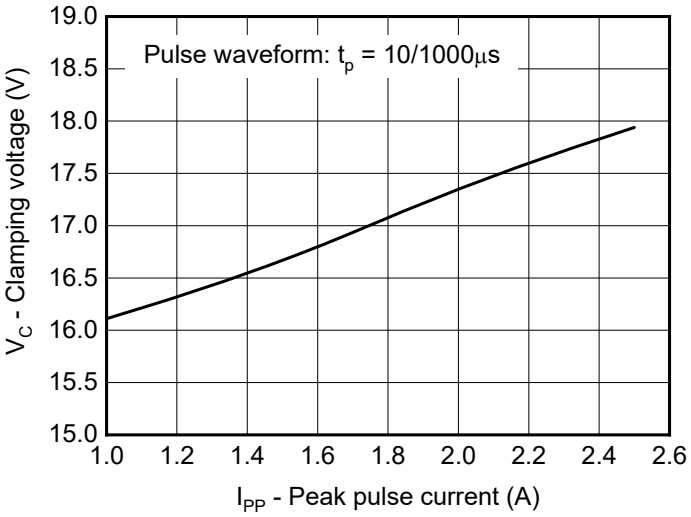


Fig4： Capacitance vs. Reverse voltage

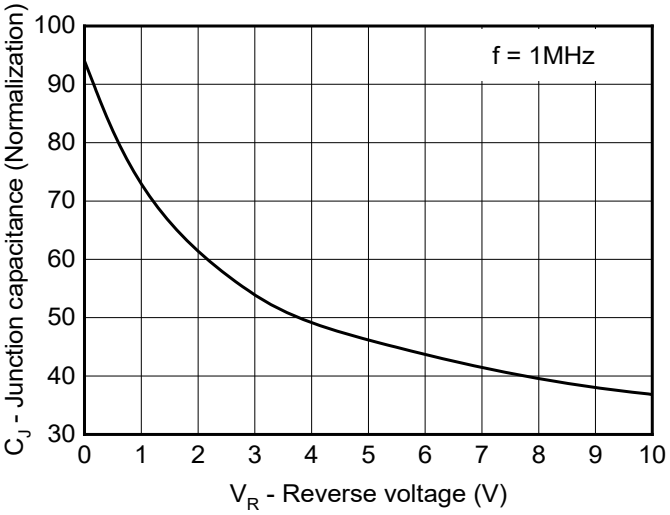


Fig5： Non-repetitive peak pulse power vs. Pulse time

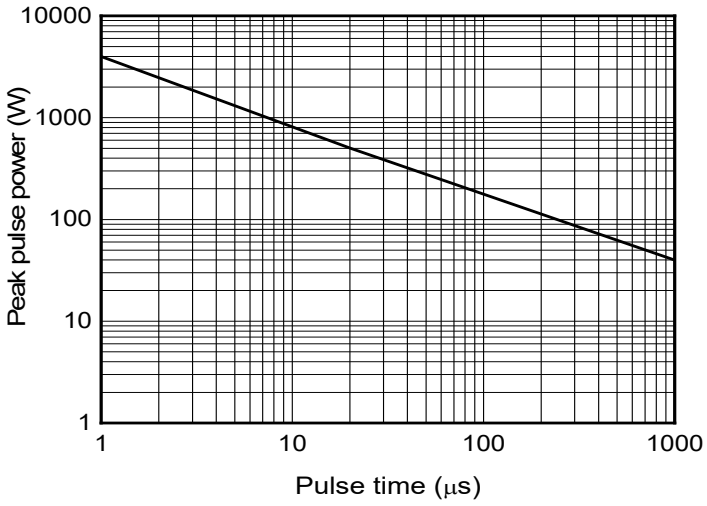
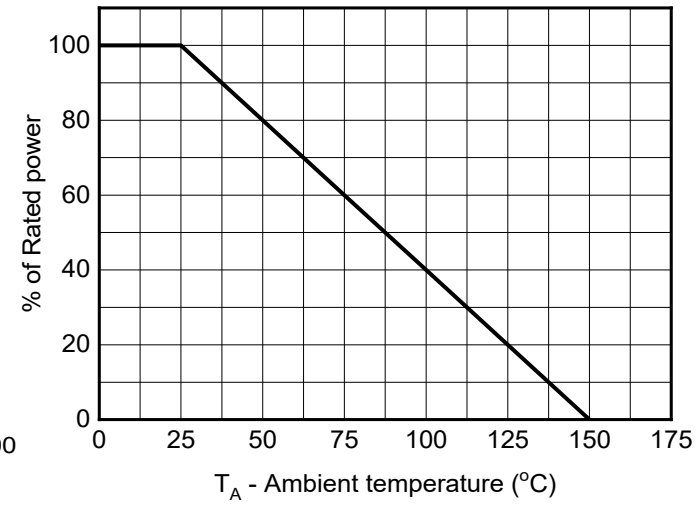
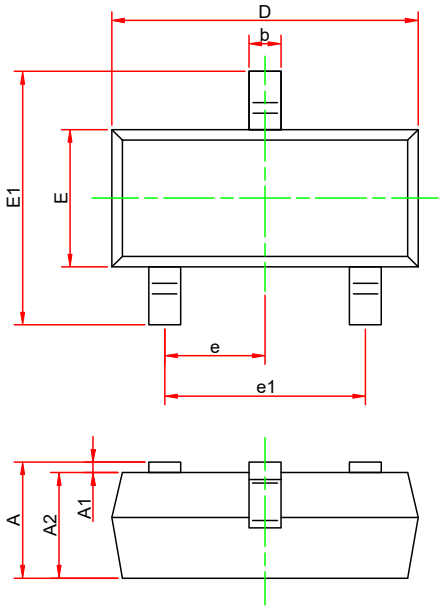
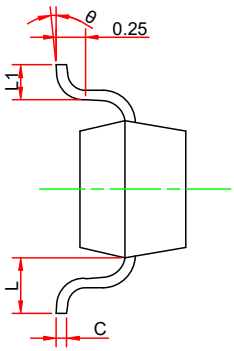


Fig6： Power derating vs. Ambient temperature



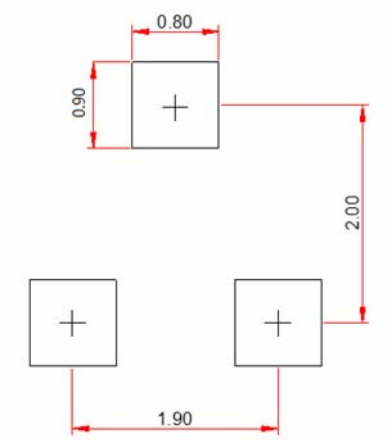
■ Outline Dimensions





Symbol	Dimensions in millimeters		
	Min.	Typ.	Max.
A	0.900	-	1.150
A1	0.000	-	0.100
A2	0.900	-	1.050
b	0.300	-	0.500
c	0.100	-	0.200
D	2.800	-	3.000
E	1.200	-	1.400
E1	2.250	-	2.550
e	0.950TYP		
e1	1.800	-	2.000
L	0.550REF		
L1	0.300	-	0.500
θ	0°	-	8°

■ Soldering Footprint



Notes:
This recommended land pattern is for reference purposes only. Please consult your manufacturing group to ensure your PCB design guidelines are met.

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