

Features

2 Unidirectional transil functions
Low leakage current: $I_R \max < 20 \mu A$ at VRM
350W peak pulse power(8/20 μs)
Transient protection for data lines as per
IEC61000-4-2(ESD) 15KV(air) 8KV(contact)
IEC61000-4-5(Lightning) see IPPM below

Applications

Computers
Printers
Communication systems

Mechanical Data

SOT-23 package

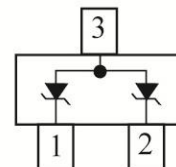
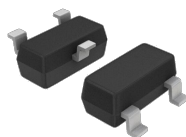
Molding compound flammability rating: UL 94V-0

Packaging: Tape and Reel

RoHS/WEEE Compliant

12C

SOT-23



Schematic & PIN Configuration

Absolute Maximum Rating

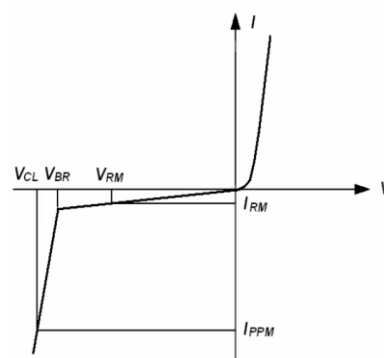
Parameter	Symbol	Limits	Unit
Peak Pulse Power ($t_p = 8/20\mu s$)	PPP	350	W
Lead Solder Temperature – Maximum (10 Second Duration)	TL	260	°C
Storage Temperature Range	Tstg	-55 ~ +150	°C
Operating Temperature Range	Top	-40 ~ +125	°C
Maximum junction temperature	Tj	150	°C
Electrostatic discharge	VPP		kV
IEC61000-4-2 air discharge		15	
IEC61000-4-2 contact discharge		8	

Electrical Characteristics (TA=25°C unless otherwise specified)

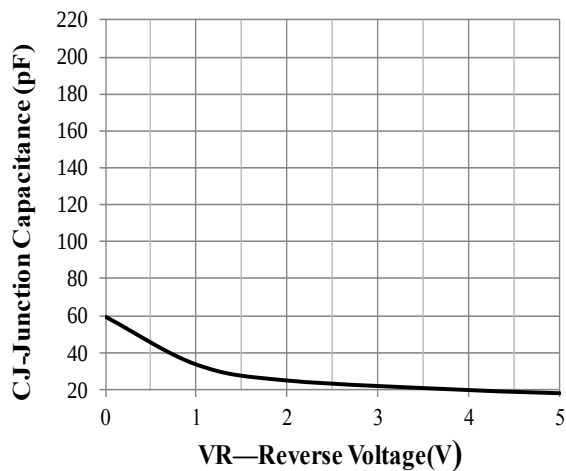
Symbol	Parameter	Conditions	Min	Typ	Max	Unit
VRWM	Reverse Working Peak Voltage				12	V
VBR	Reverse Breakdown Voltage	IT = 1mA	13.3	14.4	17	V
IR	Reverse Leakage Current	VRWM = 12 V			1	μA
VC	Clamping Voltage	IPP = 1 A (8/20μs)			22	V
VC	Clamping Voltage	IPP = 1.2 A (8/20 μs)		25	30	V
Ipp	Peak Pulse Current	tp = 8/20μs			12	A
CJ	Capacitance	VR = 0V, f = 1MHz		60	90	pF

Electrical Parameters (TA = 25°C unless otherwise noted)

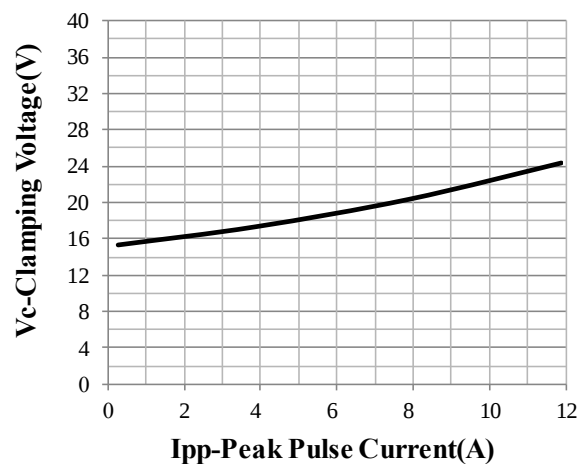
Symbol	Parameter
VRM	Stand-off voltage
VBR	Breakdown voltage
VCL	Clamping voltage
IRM	Leakage current
IPPM	Peak pulse current



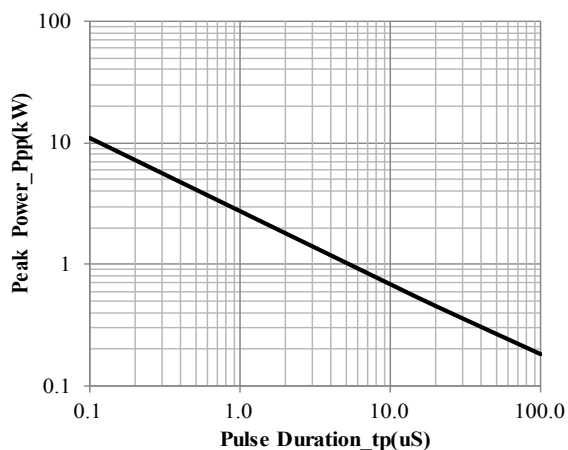
RATING AND CHARACTERISTIC CURVES



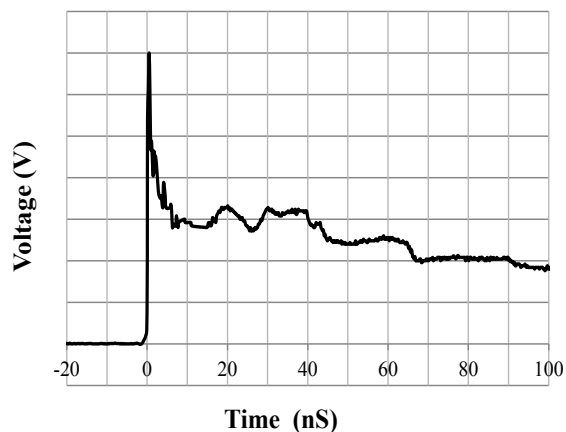
Junction Capacitance vs. Reverse Voltage



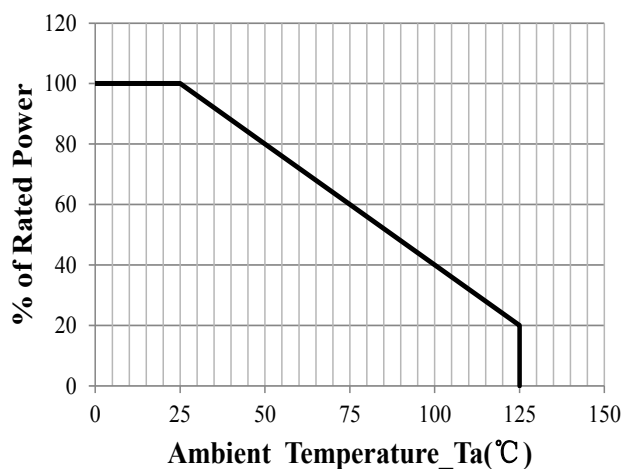
Clamping Voltage vs. Peak Pulse Current



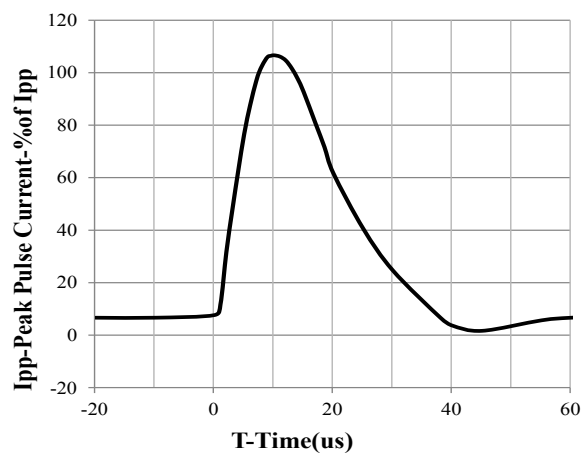
Peak Pulse Power vs. Pulse Time



IEC61000-4-2 Pulse Waveform



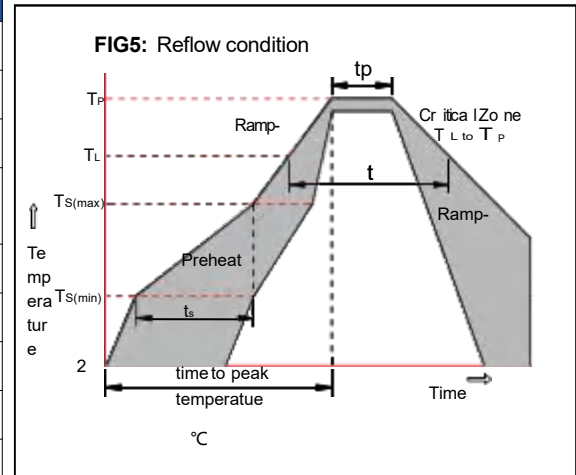
Power Derating Curve



8 X 20us Pulse Waveform

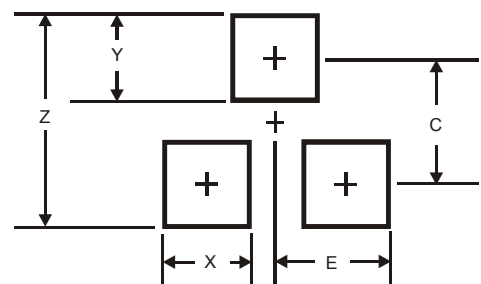
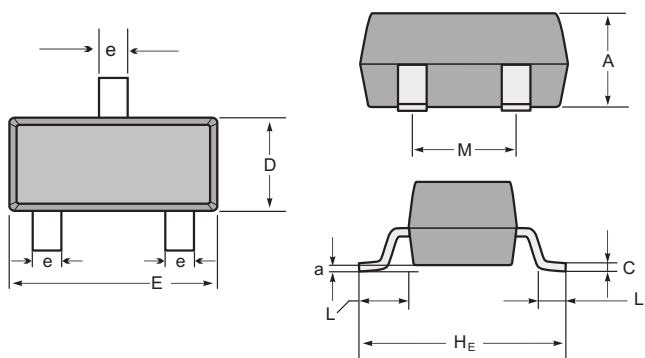
Soldering parameters

Reflow Condition		Pb-Free assembly (see as below)
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 (Liquid us 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)(Liquid us)	+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)		30 secs. Max
Ramp-down Rate		6°C/sec. Max
Time 25°C to Peak Temp (T_P)		8 min. Max
Do not exceed		+260°C



Package Dimensions & Suggested Pad Layout

SOT23



SOT-23 mechanical data

UNIT		A	C	D	E	H _E	e	M	L	L ₁	a
mm	max	1.1	0.15	1.4	3.0	2.6	0.5	1.95	0.55 (ref)	0.36 (ref)	0.15
	min	0.9	0.08	1.2	2.8	2.2	0.3	1.7			0.0
mil	max	43	6	55	118	102	20	77	22 (ref)	14 (ref)	6
	min	35	3	47	110	87	12	67			0.0

Dimensions	SOT23
Z	2.9
X	0.8
Y	0.9
C	2.0
E	1.35

Tape & reel specification

Technical drawing of a tape reel showing top, side, and cross-sectional views with dimensions.

Top View: Shows a rectangular reel with width W and length E . The tape is wound in a series of loops. Dimensions $P0$, $P2$, and $P1$ define the pitch between loops. The tape has a width F and a thickness T . The reel has a central hub with diameter $\varnothing D0$ and an outer flange with diameter $\varnothing D1$. The tape is wound in a series of loops with a pitch of $P0$ between the first and second loops, $P2$ between the second and third loops, and $P1$ between the third and fourth loops. The tape has a width F and a thickness T . The reel has a central hub with diameter $\varnothing D0$ and an outer flange with diameter $\varnothing D1$.

Side View: Shows the reel with a central hub of diameter $\varnothing D0$ and an outer flange of diameter $\varnothing D1$. The tape is wound in a series of loops with a pitch of $P0$ between the first and second loops, $P2$ between the second and third loops, and $P1$ between the third and fourth loops. The tape has a width F and a thickness T . The reel has a central hub with diameter $\varnothing D0$ and an outer flange with diameter $\varnothing D1$.

Cross-sectional View (SECTION : A-A): Shows the tape with a width F and a thickness T . The tape is wound in a series of loops with a pitch of $P0$ between the first and second loops, $P2$ between the second and third loops, and $P1$ between the third and fourth loops. The tape has a width F and a thickness T .

Cross-sectional View (SECTION : B-B): Shows the tape with a width F and a thickness T . The tape is wound in a series of loops with a pitch of $P0$ between the first and second loops, $P2$ between the second and third loops, and $P1$ between the third and fourth loops. The tape has a width F and a thickness T .

Technical drawing of a 7 inch Reel showing top and side views with dimensions.

Top View: Shows a circular reel with a diameter of 7 inches. The reel has a central hub with a diameter of $\varnothing D4$ and a central hole with a diameter of $\varnothing D3$. The reel has a central hub with a diameter of $\varnothing D4$ and a central hole with a diameter of $\varnothing D3$. The reel has a central hub with a diameter of $\varnothing D4$ and a central hole with a diameter of $\varnothing D3$.

Side View: Shows the reel with a central hub of diameter $\varnothing D4$ and a central hole of diameter $\varnothing D3$. The reel has a central hub of diameter $\varnothing D4$ and a central hole of diameter $\varnothing D3$. The reel has a central hub of diameter $\varnothing D4$ and a central hole of diameter $\varnothing D3$.

Symbol	Dimension (mm)
P0	4.00±0.10
P1	4.00±0.10
P2	2.00±0.10
D0	1.55±0.10
D1	1.05±0.10
E	1.55±0.10
F	3.60±0.10
W	8.00±0.10
A0	3.80±0.20
B0	3.25±0.20
K0	1.45±0.10
T	0.25±0.05
D2	178.0±3.0
D3	55Min.
D4	R24.0±3.0
G	R82.0±3.0
I	13.0±2.0
W1	11.0±3.0
Quantity: 3000PCS	