Features

240 Watts peak pulse power (tp = 8/20µs)

Bidirectional configurations

Solid-state silicon-avalanche technology

Low clamping voltage

Low leakage current

IEC 61000-4-2 ±30kV contact ±30kV air

IEC 61000-4-4 (EFT) 40A (5/50ns)

IEC 61000-4-5 (Lightning) 4A (8/20µs)

Applications

Dataline

Automatic Teller Machines

Net works

Power line

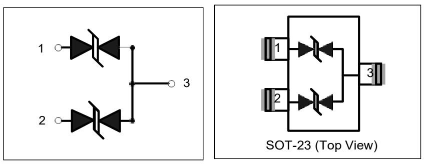
Mechanical Data

SOT-23 package

Molding compound flammability rating: UL 94V-0

Packaging: Tape and Reel

RoHS/WEEE Compliant



Schematic & PIN Configuration

Absolute Maximum Rating

Rating	Symbol	Value	Units
Peak Pulse Power (t_p =8/20µs)	P_{PP}	240	Watts
Peak Pulse Current (t_p =8/20µs) (note1)	I_{pp}	4	A
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	V_{ESD}	30 30	kV
Lead Soldering Temperature	T_L	260(10seconds)	℃
Junction Temperature	T_J	-55 to + 150	℃
Storage Temperature	T_{stg}	-55 to + 150	℃

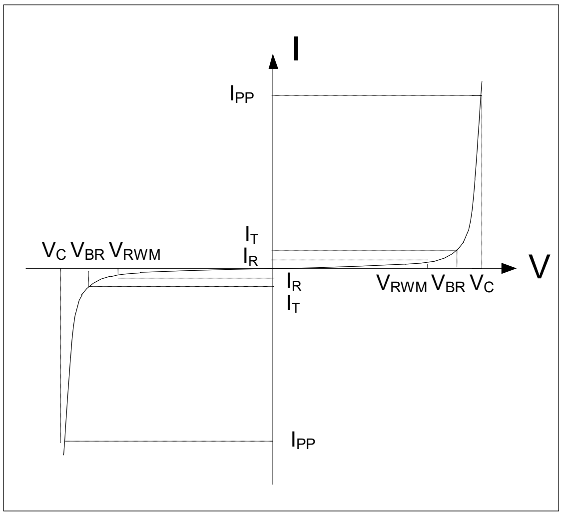
Electrical Characteristics

Parameter	**Symbol**	**Conditions**	**Min**	**Typical**	**Max**	**Units**
Reverse Stand-Off Voltage	V_{RWM}				24.0	V
Reverse Breakdown Voltage	V_{BR}	I_T=1mA	26.4			V
Reverse Leakage Current	I_R	V_{RWM}=24V,T=25℃		0.1	0.5	µA
Peak Pulse Current	I_{PP}	t_p =8/20µs			4	A
Clamping Voltage	V_C	I_{PP}=4A,t_p=8/20µs		44		V
Junction Capacitance	C_j	V_R = 0V, f = 1MHz		9		pF

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

Symbol	**Parameter**
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}
V_{RWM}	Working Peak Reverse Voltage
I_R	Maximum Reverse Leakage Current @ V_{RWM}
V_{BR}	Breakdown Voltage @ I_T
I_T	Test Current

Note:. 8/20µs pulse waveform.



RATING AND CHARACTERISTIC CURVES

Figure 1: Peak Pulse Power vs. Pulse Time

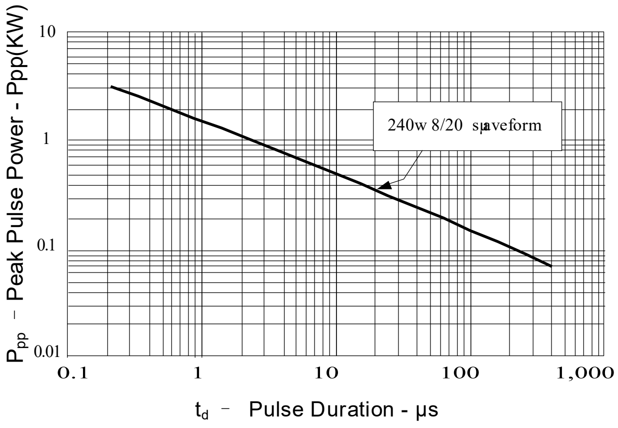


Figure 2: Power Derating Curve

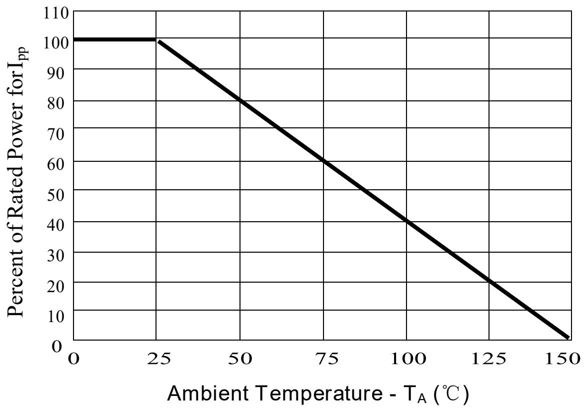


Figure3: Pulse Waveform

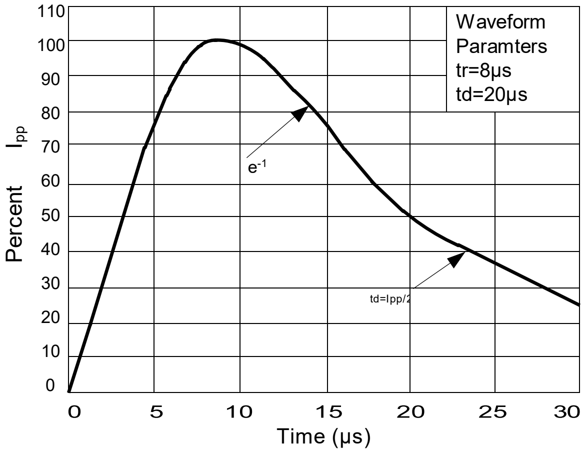
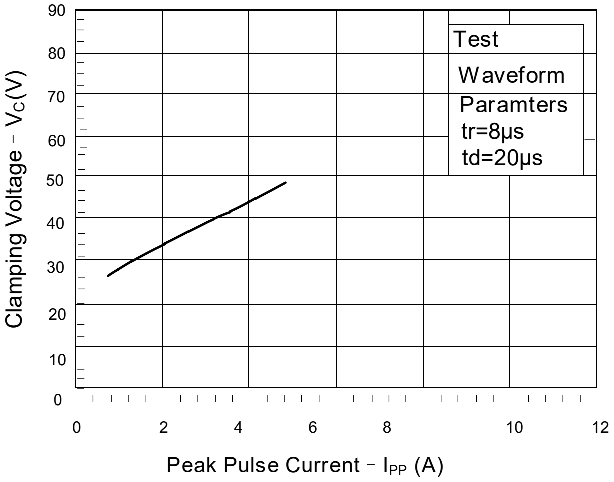


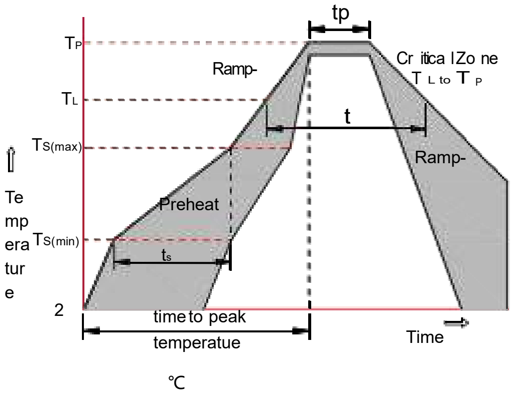
Figure 4: Clamping Voltage vs.Ipp



Soldering parameters

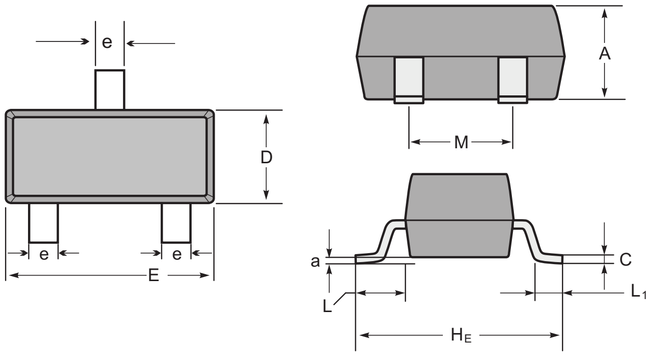
Reflow Condition		Pb-Free assembly (see as bellow)
Pre Heat	-Temperature Min ($T_{s(min)}$)	+150℃
	-Temperature Max($T_{s(max)}$)	+200℃
	-Time (Min to Max) (ts)	60-180 secs.
Average ramp up rate (Liquid us Temp (T_L) to peak)		3℃/sec. Max
$T_{s(max)}$ to T_L - Ramp-up Rate		3℃/sec. Max
Reflow	-Temperature(T_L)(Liquid 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℃

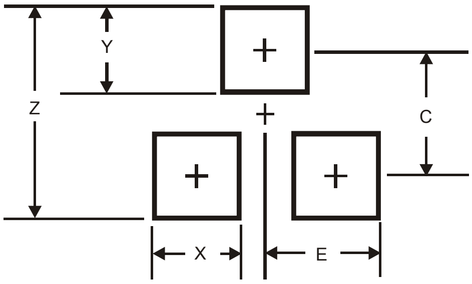
FIG5: Reflow condition



Package Dimensions & Suggested Pad Layout

SOT23





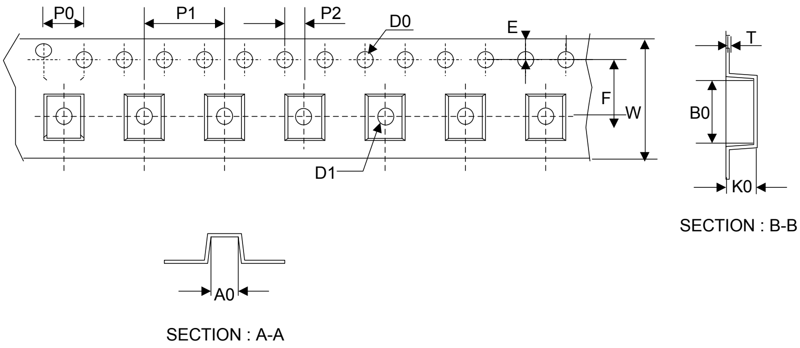
SOT-23 mechanical data

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)	0.0
	min	0.9	0.08	1.2	2.8	2.2	0.3	1.7			0.15
mil	max	43	6	55	118	102	20	77	22 (ref)	14 (ref)	0.0
	min	35	3	47	110	87	12	67			6

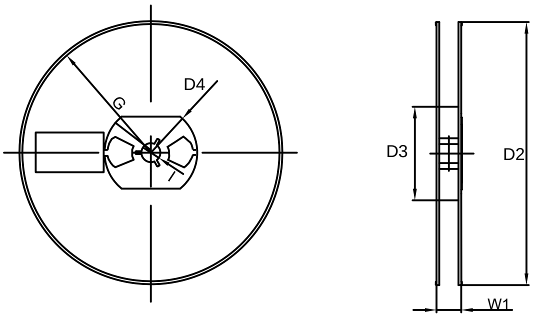
Dimensions	SOT23
Z	2.9
X	0.8
Y	0.9
C	2.0
E	1.35

Tape & rell specification

Tape



7” Reel



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