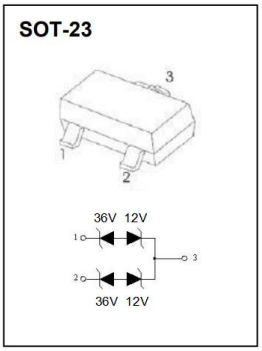
Features

Bi-directional ESD protection of one line
Reverse stand−off voltage: 12V/36V
Low reverse clamping voltage
Low leakage current
Fast response time
IEC 61000-4-2 (ESD) immunity test：
Air discharge: ±30kV
Contact discharge: ±30kV

ADM

SOT-23



Applications

Computers and peripherals
High speed data lines
Audio and video equipment
Cellular handsets and accessories
Subscriber identity module(SIM) card protection
Portable electronics
FireWire
Other electronics equipments communi- cation systems

Absolute Maximum Rating

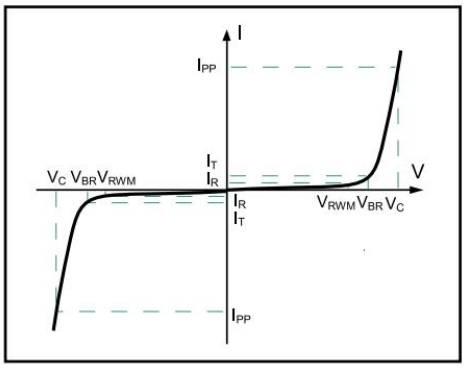
Parameter	Symbol	Value	Unit
Peak Pulse Power (PIN1/PIN2 to PIN3)	Ppk	360	W
Peak Pulse Power (PIN3 to PIN1/PIN2)	Ppk	360	W
Peak Pulse Current (PIN1/PIN2 to PIN3)	IPP	4	A
Peak Pulse Current (PIN3 to PIN1/PIN2)	IPP	15	A
ESD per IEC 61000−4−2 (Air) ESD per IEC 61000−4−2 (Contact)	VESD	±30 ±30	kV
Operating Temperature Range	TJ	−55to +125	°C
Storage Temperature Range	Tstg	−55 to +150	°C

Electrical Characteristics

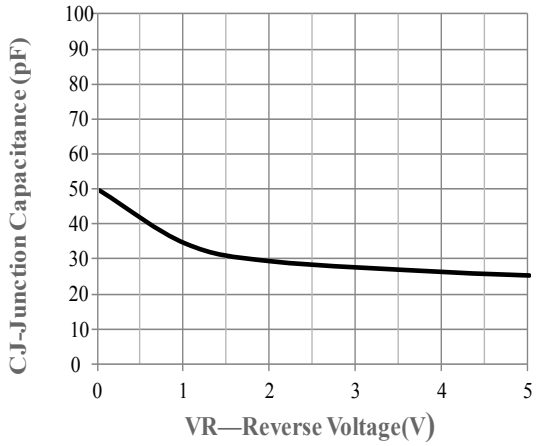
Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse Working Voltage	VR_{WM}	PIN1/PIN2 to PIN3			36	V
		PIN3 to PIN1/PIN2			12	V
Breakdown Voltage	VBR	IT=1mA,tp=8/20μs,PIN1/PIN2 to PIN3	39.5		45	V
		IT=1mA,tp=8/20μs,PIN3 to PIN1/PIN2	14.2		16.2	V
Reverse Leakage Current	IR	VR_{WM} = 36V,PIN1/PIN2 to PIN3			0.2	uA
		VR_{WM} = 12V,PIN3 to PIN1/PIN2			0.2	uA
Clamping Voltage	Vc	I_{PP} = 4A (8 x 20μs pulse), PIN1/PIN2 to PIN3			60	V
		I_{PP} = 15A (8 x 20μs pulse), PIN3 to PIN1/PIN2			24	V
Junction Capacitance	Cj	VR = 0V, f = 1MHz			50	pF

Electronics Parameter

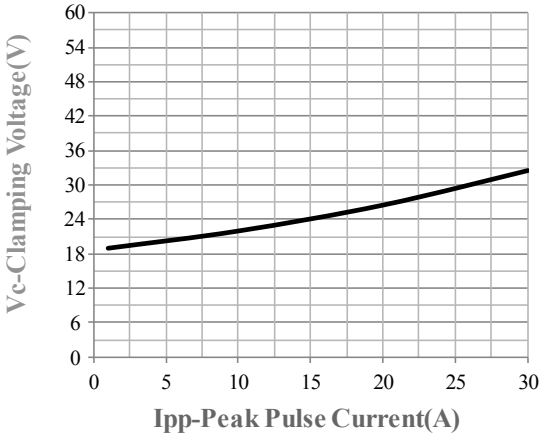
Symbol	Parameter
I_T	Test Current
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @Ic
V_{BR}	Breakdown Voltage @ IT
I_R	Reverse Leakage Current @ VRWM
V_{RWM}	Reverse Standoff Voltage



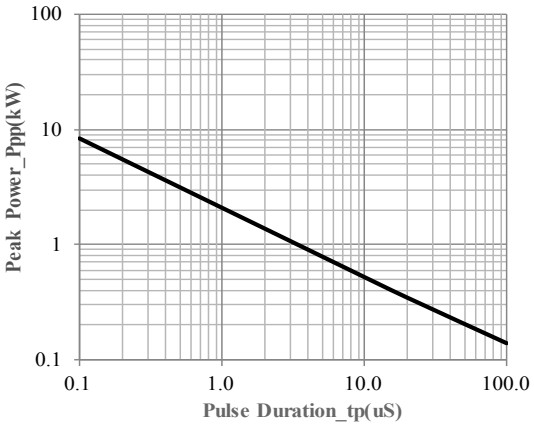
RATING AND CHARACTERISTIC CURVES



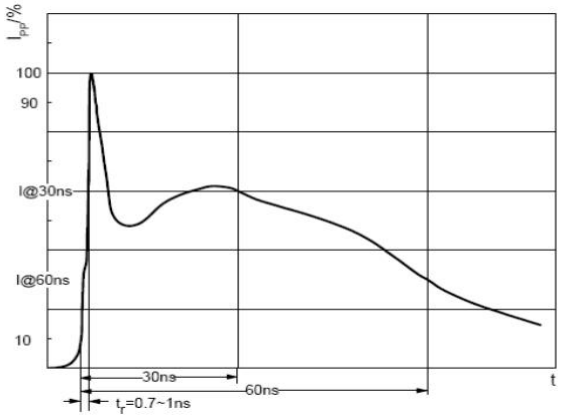
Junction Capacitance vs. Reverse Voltage



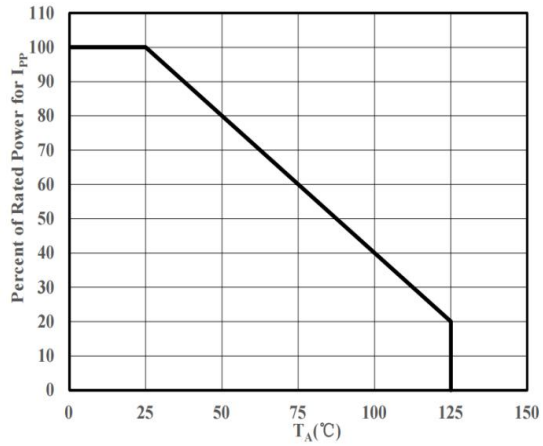
Clamping Voltage vs. Peak Pulse Current



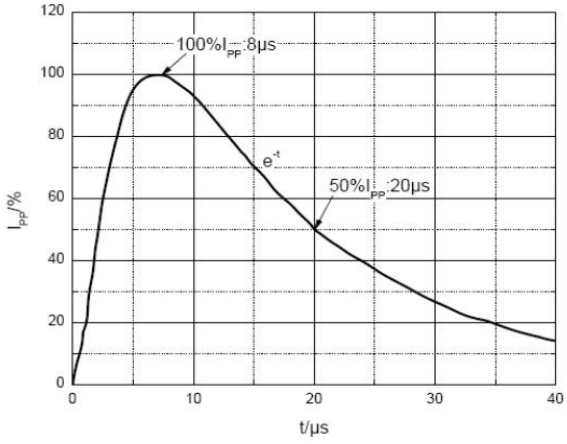
Peak Pulse Power vs. Pulse Time



ESD pulse waveform according to IEC61000-4-2



Power Derating Curve

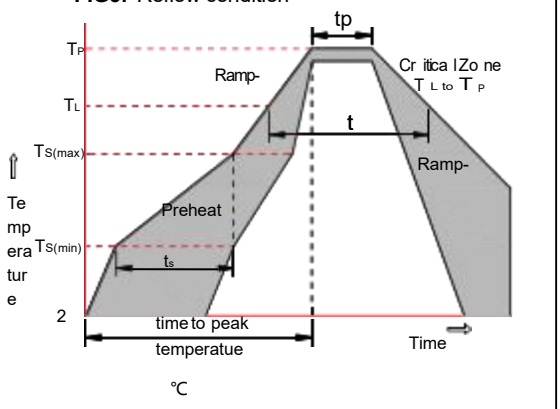


8/20μs pulse waveform according to IEC 61000-4-5

Soldering parameters

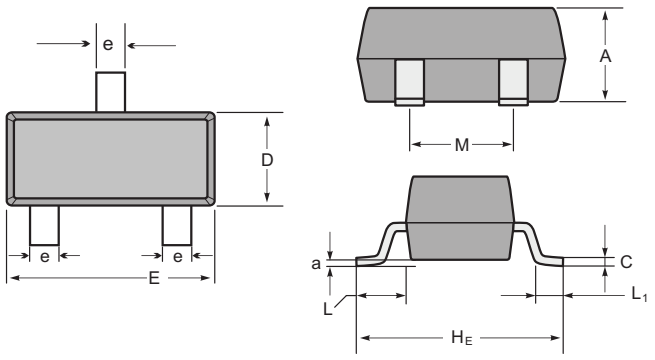
Reflow Condition		Pb-Free assembly (see as bellow)
Pre Heat	-Temperature Min ($T_{s(min)}$)	+150℃
	-Temperature Max($T_{s(max)}$)	+200℃
	-Time (Min to Max) (ts)	60-180 secs.
Average ramp up rate (Liquid us Temp (T_L) to peak)		3℃/sec. Max
$T_{s(max)}$ to T_L - Ramp-up Rate		3℃/sec. Max
Reflow	-Temperature(T_L)(Liquid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

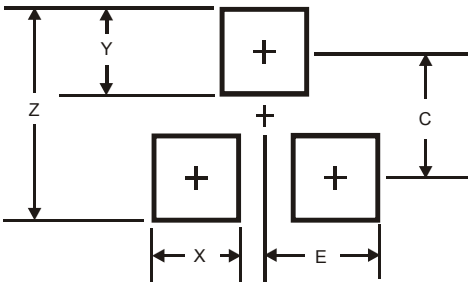
FIG5: Reflow condition



Package Dimensions & Suggested Pad Layout

SOT23





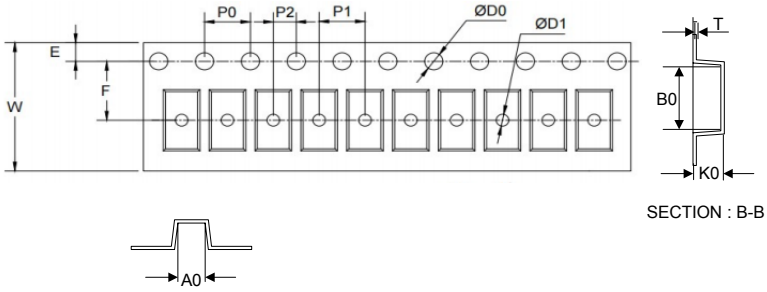
SOT-23 mechanical data

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

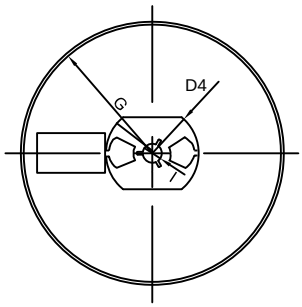


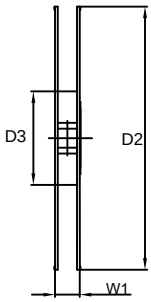
SECTION : B-B

SECTION : A-A

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

7” Reel





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	