

Features

240W (8/20 μ s) Peak Pulse Power
High ESD Protection Level
SOT23 Thin SMD Package
RoHS compliant
Matte Tin Lead finish (Pb-Free)
Protect Two CAN Bus Lines

Applications

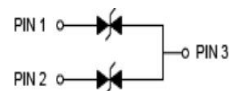
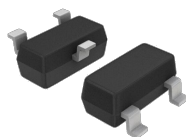
DeviceNet
Low and High Speed CAN
Smart Distribution Systems (SDS)
Controlled Area Network – CAN 2.1 / CAN FD

Mechanical Data

SOT-23 package
Molding compound flammability rating: UL 94V-0
Packaging: Tape and Reel
RoHS/WEEE Compliant

V6W

SOT-23



Schematic & PIN Configuration

Absolute Maximum Rating

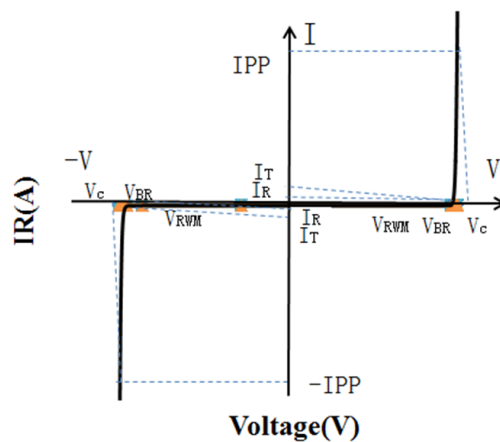
Symbol	Parameter	Value	Unit
PPK	Peak Pulse Power	240	W
IPP	Peak Pulse Current	6	A
VESD (Contact)	Contact ESD Voltage per IEC61000-4-2	15	kV
VESD(Air)	Air ESD Voltage per IEC61000-4-2	15	kV
TJ	Junction Temperature	-65 to +150	°C
TSTG	Storage Temperature	-65 to +150	°C

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

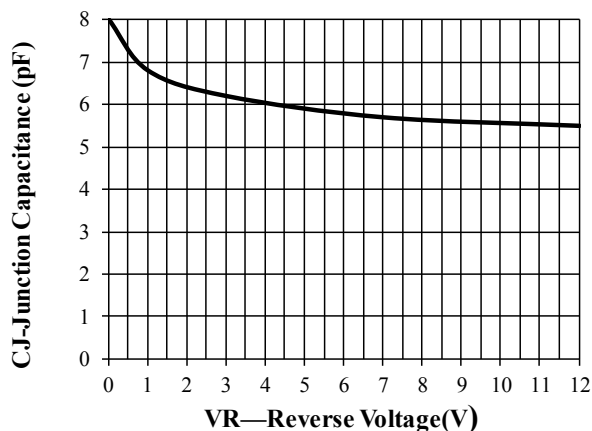
Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse Working Voltage	V_{RWM}				15	V
Breakdown Voltage	V_{BR}	$I_T = 1\text{mA}$	16.5	18	20	V
Reverse Leakage Current	I_R	$V_{RWM} = 15\text{V}$			1	μA
Clamping Voltage	V_C	$I_{PP} = 6\text{A}$ (8 x 20 μs pulse)		27	40	V
Junction Capacitance	C_J	$V_R = 0\text{V}$, $f = 1\text{MHz}$		18	30	pF

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

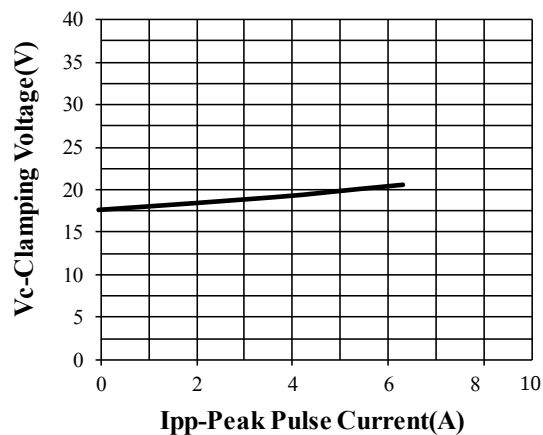
Symbol	Parameter
I_T	Test Current
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_C



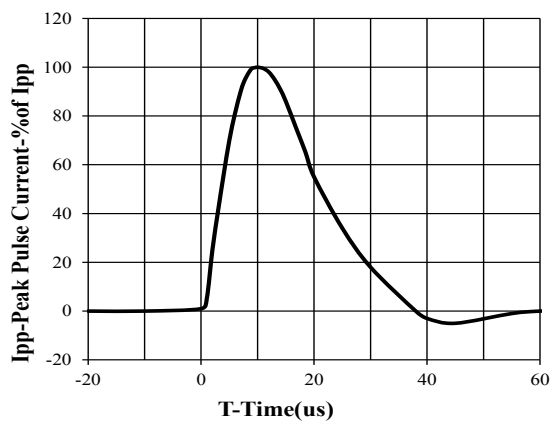
RATING AND CHARACTERISTIC CURVES



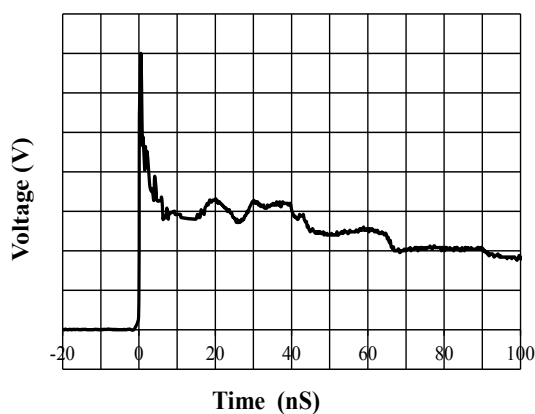
Junction Capacitance vs. Reverse Voltage



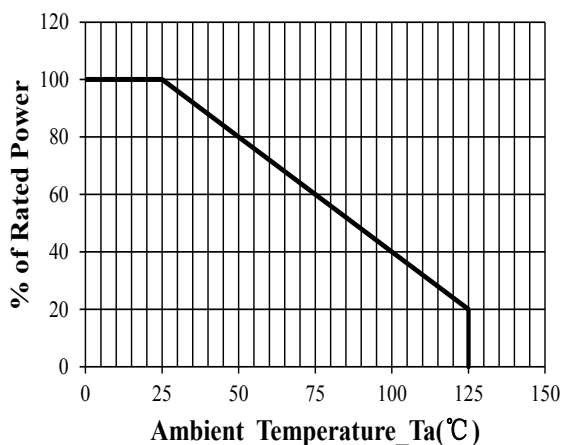
Clamping Voltage vs. Peak Pulse Current



8 X 20us Pulse Waveform



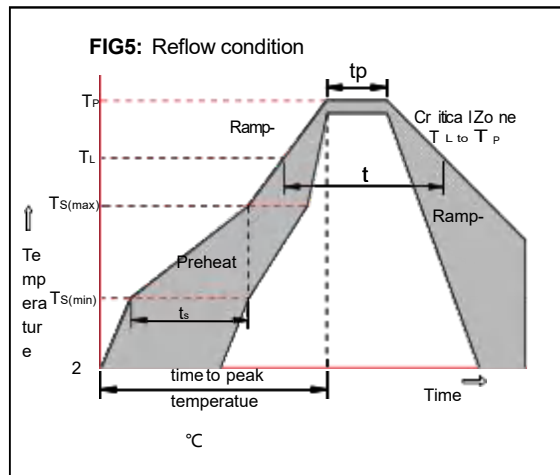
IEC61000-4-2 Pulse Waveform



Power Derating Curve

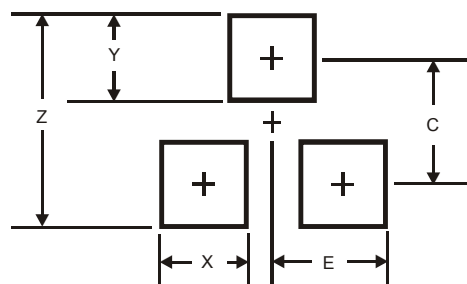
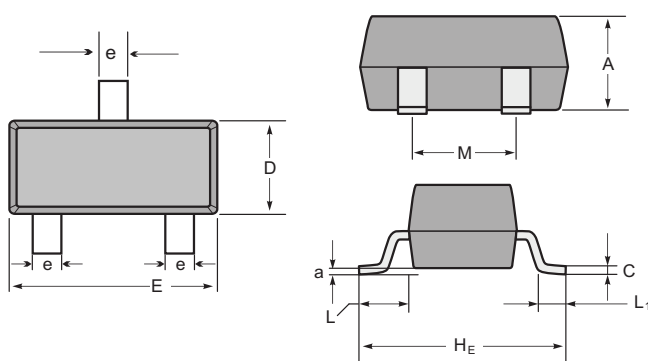
Soldering parameters

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 $\varnothing D1$.

SECTION : A-A: A cross-section of the tape showing a width $A0$.

SECTION : B-B: A cross-section of the reel showing a height $B0$ and a width $K0$.

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

Top View: Shows a circular reel with diameter $D4$. The tape is wound in a series of loops. The reel has a central hub with diameter G and a flange with diameter $D2$. The tape has a width $W1$ and a thickness $D3$.

Side View: Shows the reel from the side, with a height $D3$ and a width $W1$.

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	