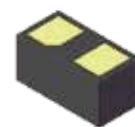


FEATURES

- | 40Watts peak pulse power (tp = 8/20μs)
- | Bidirectional configurations
- | Solid-state silicon-avalanche technology
- | Working voltages : 3.3 V
- | Low leakage current: 5nA typ

APPLICATIONS

- | USB 3.0 and USB3.1
- | Ultra-high-speed data lines
- | Very sensitive interface lines
- | Notebooks, Desktops, and Servers
- | Portable Instrumentation



DFN0603



Marking

IEC COMPATIBILITY

- | IEC61000-4-2 (ESD) ±20kV (air), ±15kV (contact)
- | IEC61000-4-4 (EFT) 40A (5/50ns)

APPROVALS

- RoHS** | Compliance with 2011/65/EU
- HF** | Compliance with IEC61249-2-21:2003



Schematic Symbol

THERMAL CONSIDERATIONS

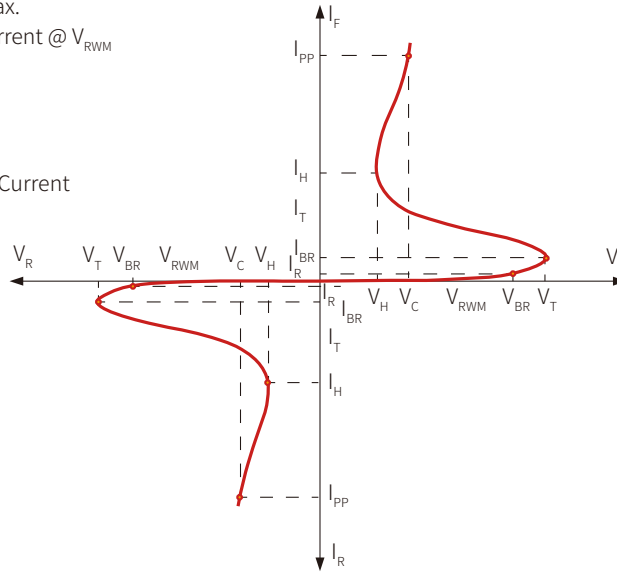
Symbol	Parameter	Value	Unit
P_{pp}	Peak Pulse Power (tp=8/20μs waveform)	40	Watts
T_J	Operating Temperature Range	-55 to +125	°C
T_{STG}	Storage Temperature Range	-55 to +125	°C

ELECTRICAL CHARACTERISTICS

Symbol	Parameter	Condition	Min.	Typ.	Max.	Unit
V_{RWM}	Reverse Stand-off Voltage				3.3	V
V_{BR}	Reverse Breakdown Voltage	$V_T=1mA$	4.0	7.8		V
V_H	Holding Voltage	$I_H=50mA$	2.0		3.3	V
I_R	Reverse Leakage Current	$V_{RWM}=3.3V, T=25^{\circ}C$		5	200	nA
V_C	Clamping Voltage	$I_{PP}=6A, tp=8/20\mu s$		5.5	6.5	V
V_C	ESD Clamping Voltage	$I_{TLP}=4A$ $tp=0.2/100ns$		5.8		V
V_C	ESD Clamping Voltage	$I_{TLP}=16A$ $tp=0.2/100ns$		9.4	11.8	V
I_{PP}	Peak Pulse Current	$tp=8/20\mu s$			6	A
R_{dyn}	dynamic resistance	$TLP=0.2/100ns$		0.3	0.5	Ω
C_J	Off State Junction Capacitance	$V_R=0V, f=1MHz$		0.22	0.32	pF

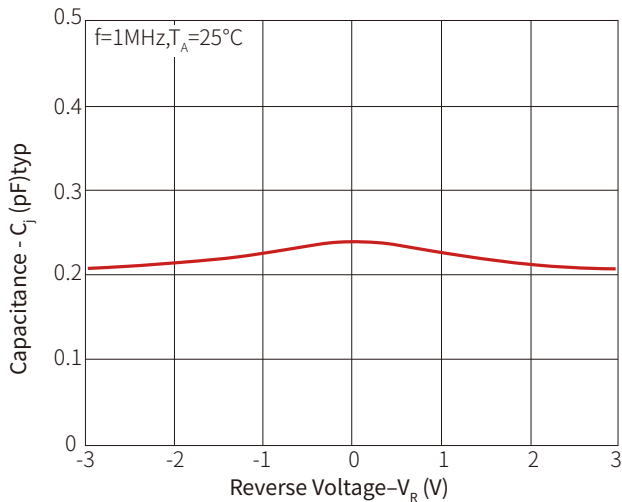
ELECTRICAL PARAMETERS ($T_A = 25^\circ\text{C}$)

V_{RWM} Reverse Working Voltage Max.
 I_R Maximum Reverse Leakage Current @ V_{RWM}
 V_T Trigger Voltage
 V_H Holding Voltage
 I_H Holding Current
 V_{BR} Reverse Breakdown Voltage
 I_{PP} Maximum Reverse Peak Pulse Current
 V_C Clamping Voltage @ I_{PP}

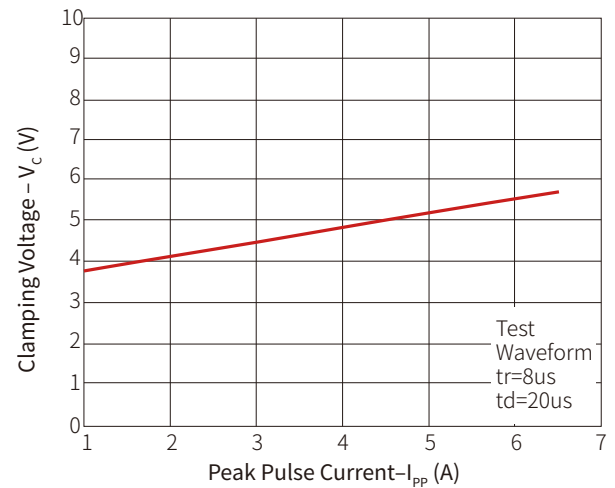


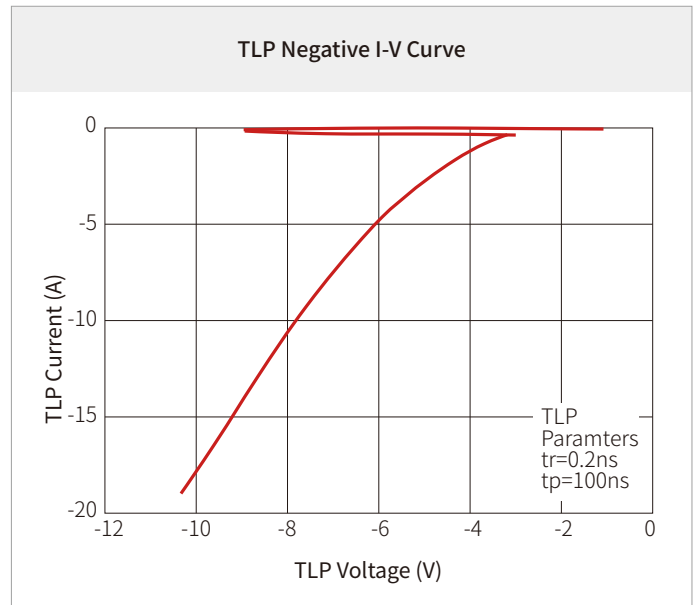
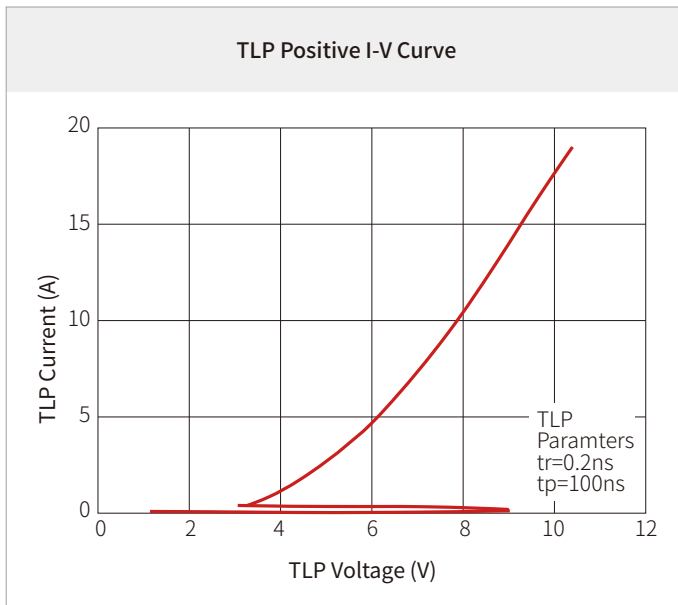
CHARACTERISTIC CURVES

Capacitance vs. Reverse Voltage



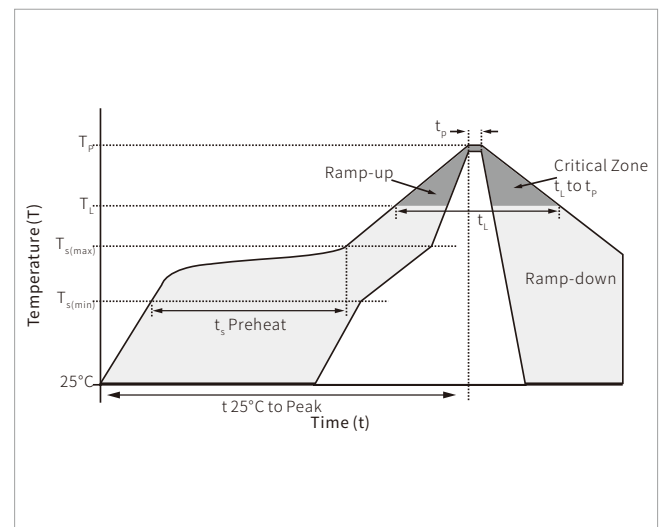
Reverse Clamping Voltage vs. Peak Pulse Current



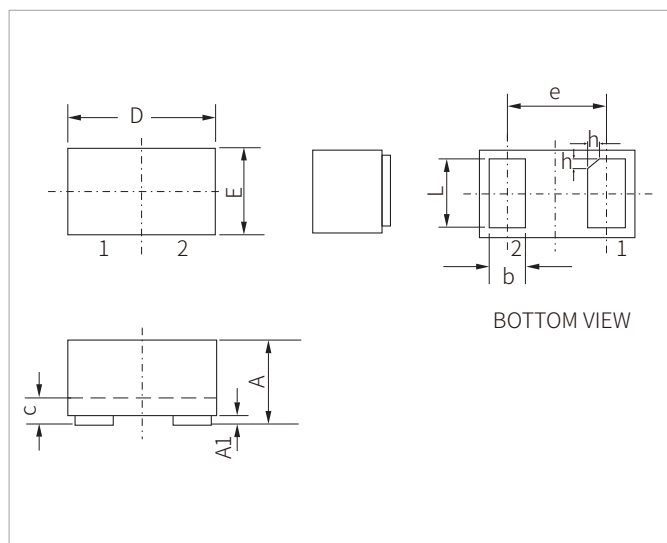


SOLDERING PARAMETERS

Reflow Condition		Lead-free assembly
Pre Heat	Temperature Max ($T_{s(min)}$)	150°C
	Temperature Max ($T_{s(max)}$)	200°C
	Time (min to max) (t_s)	60 – 180 secs
Average ramp up rate (Liquidus Temp (T_L) to peak)		3°C/second max
$T_{s(max)}$ to T_L - Ramp-up Rate		3°C/second max
Reflow	Temperature (T_L) (Liquidus)	217°C
	Time (min to max) (t_L)	60 – 150 seconds
Peak Temperature (T_p)		260°C
Time within 5°C of actual peak Temperature (t_p)		20 – 40 seconds
Ramp-down Rate		6°C/second max
Time 25°C to peak Temperature (T_p)		8 minutes max.
Do not exceed		260°C

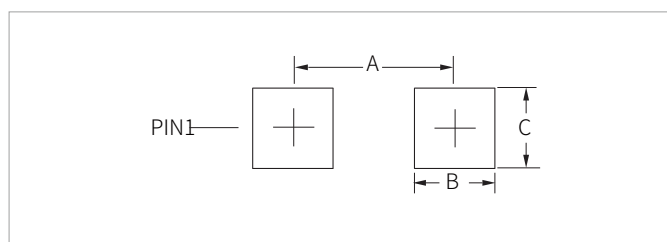


DFN0603 PACKAGE INFORMATION



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	0.28	0.36	0.011	0.014
A1	0	0.05	0	0.002
b	0.13	0.24	0.005	0.009
c	0.05	0.15	0.002	0.006
D	0.55	0.70	0.022	0.028
e	0.35BSC		0.014BSC	
E	0.25	0.35	0.010	0.014
L	0.20	0.30	0.008	0.012
h	0	0.10	0	0.004

RECOMMENDED PAD LAYOUT DIMENSIONS



Ref.	Millimeters	Inches
A	0.38	0.015
B	0.23	0.009
C	0.30	0.012

ORDERING INFORMATION

Part Number	Component Package	QTY/Reel	Reel Size
SE06F10B3.3MA-SP	DFN0603	15000PCS	7"

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By QR Code

Website



Wechat

To find your local partner within Semiware's global website: www.semiware.com

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