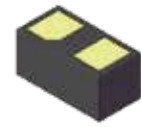


FEATURES

- | 20 Watts Peak Pulse Power per Line (tp=8/20μs)
- | Package optimized for high-speed line
- | Snap back featured
- | Working voltage: 3.3V
- | Low Leakage Current
- | Low Clamping Voltage

APPLICATIONS

- | Thunderbolt 3/4
- | USB 3.0/3.1/3.2 and 4.0
- | USB Type-C
- | Consumer electronics



DFN0603



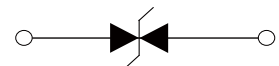
Marking

IEC COMPATIBILITY

- | IEC61000-4-2 (ESD) ±15kV (air), ±12kV (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

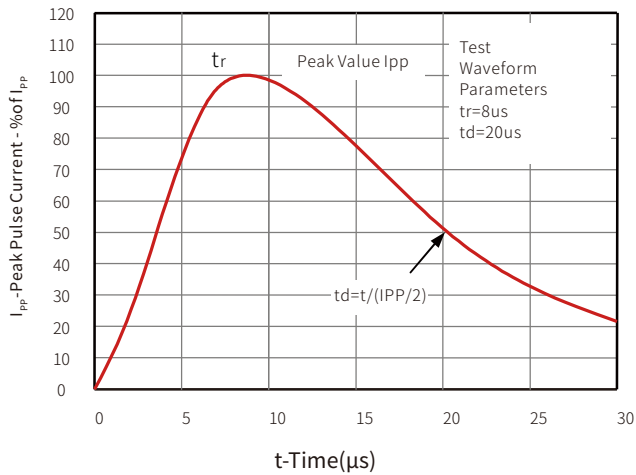
Symbol	Parameter	Value	Unit
P_{pp}	Peak Pulse Power (tp=8/20μs waveform)	20	Watts
T_J	Operating Temperature Range	-55 to +125	°C
T_{STG}	Storage Temperature Range	-55 to +150	°C

ELECTRICAL CHARACTERISTICS

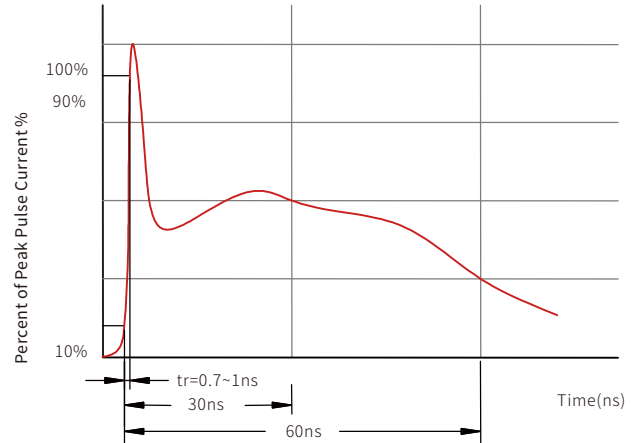
Symbol	Parameter	Condition	Min.	Typ.	Max.	Unit
V_{RWM}	Reverse Working Voltage	Pin to Pin			3.3	V
V_{BR}	Reverse Breakdown Voltage	$I_T=0.1mA$	5			V
V_H	Holding Reverse Voltage	Pin to Pin		1.35		V
I_R	Reverse Leakage Current	$V_{RWM}=3.3V$			1	μA
I_H	Holding Reverse Current	Pin to Pin		20		mA
V_C	Clamping Voltage	$I_{pp}=1A, tp=8/20\mu s$		2.2	3.5	V
V_C	Clamping Voltage	$I_{pp}=4A, tp=8/20\mu s$		3.0	5	V
$V_{CTL P}$	TLP Clamping Voltage	TLP $I_{pp}=8A, tp=100ns$		3.5		V
$V_{CTL P}$	TLP Clamping Voltage	TLP $I_{pp}=16A, tp=100ns$		5.1		V
R_{DYN}	Dynamic Resistance	$I_{TLP}=4A$ to $I_{TLP}=16A$		0.14		Ω
I_{PP}	Peak Pulse Current	tp=8/20μs			4	A
C_J	Junction Capacitance	$V_R=0V, f=1MHz$		0.19	0.3	pF

CHARACTERISTIC CURVES

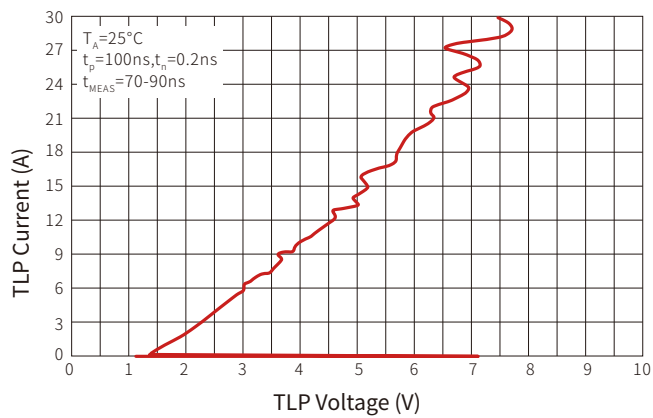
8/20 μ s Pulse Waveform



ESD Pulse Waveform (according to IEC 61000-4-2)

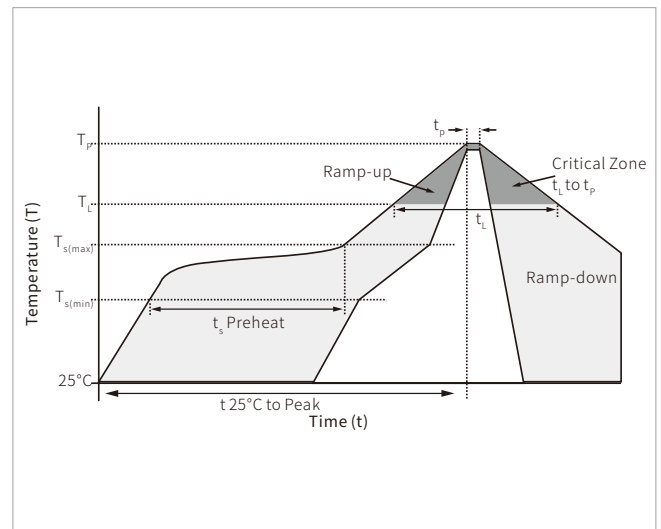


Transmission Line Pulsing (TLP) Measurement

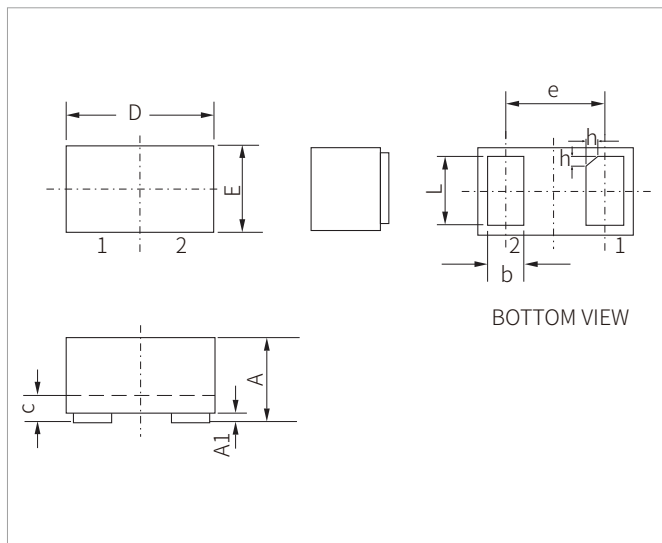


SOLDERING PARAMETERS

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

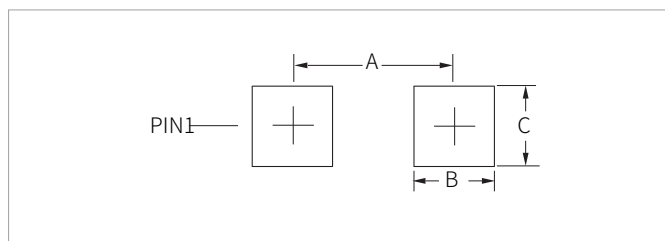


DFN0603 PACKAGE INFORMATION



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
SE06F02B3.3UA-SP	DFN0603	10000PCS	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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