

FEATURES

- | 66 Watts Peak Pulse Power per Line (tp=8/20μs)
- | Package optimized for high-speed line
- | Working voltage: 1.2V
- | Low Leakage Current
- | Low Clamping Voltage

APPLICATIONS

- | USB 3.x
- | MHL 2.0
- | SATA/SAS
- | PCI Express
- | RF Antenna



CSP0603



Marking

IEC COMPATIBILITY

- | IEC61000-4-2 (ESD) ±15kV (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

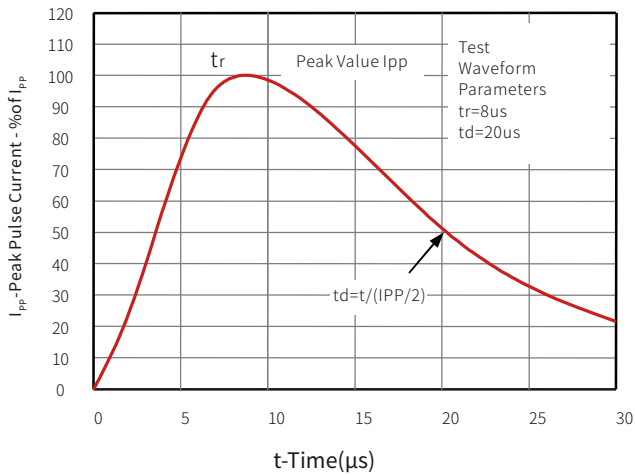
Symbol	Parameter	Value	Unit
P_{pp}	Peak Pulse Power (tp=8/20μs waveform)	66	Watts
T_J	Operating Temperature Range	-55 to +125	°C
T_{STG}	Storage Temperature Range	-55 to +150	°C

ELECTRICAL CHARACTERISTICS

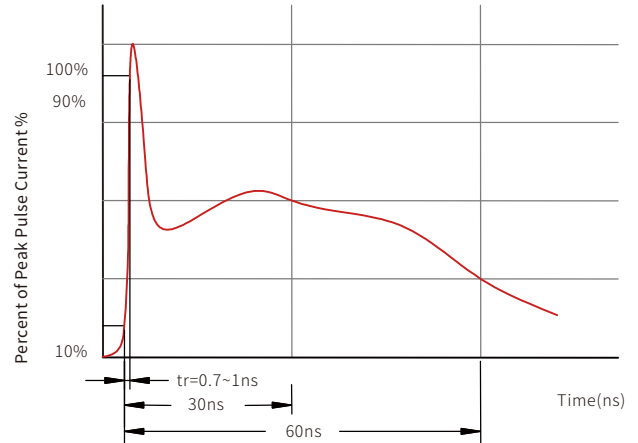
Symbol	Parameter	Condition	Min.	Typ.	Max.	Unit
V_{RWM}	Reverse Working Voltage	Pin to Pin			1.2	V
V_{BR}	Reverse Breakdown Voltage	$I_T=1mA$	4.0			V
V_H	Holding Reverse Voltage	Pin to Pin		2.1		V
I_R	Reverse Leakage Current	$V_{RWM}=1.2V$		1	100	nA
I_H	Holding Reverse Current	Pin to Pin		38		mA
V_C	Clamping Voltage	$I_{pp}=1A, tp=8/20\mu s$		2.5	5	V
V_C	Clamping Voltage	$I_{pp}=9A, tp=8/20\mu s$		5.8	7.4	V
$V_{CTL P}$	TLP Clamping Voltage	TLP $I_{pp}=8A, tp=100ns$		4.5		V
$V_{CTL P}$	TLP Clamping Voltage	TLP $I_{pp}=16A, tp=100ns$		6		V
R_{DYN}	Dynamic Resistance	$I_{TLP}=4A$ to $I_{TLP}=16A$		0.19		Ω
I_{PP}	Peak Pulse Current	tp=8/20μs			9	A
C_J	Junction Capacitance	$V_R=0V, f=1MHz$		0.22	0.26	pF

CHARACTERISTIC CURVES

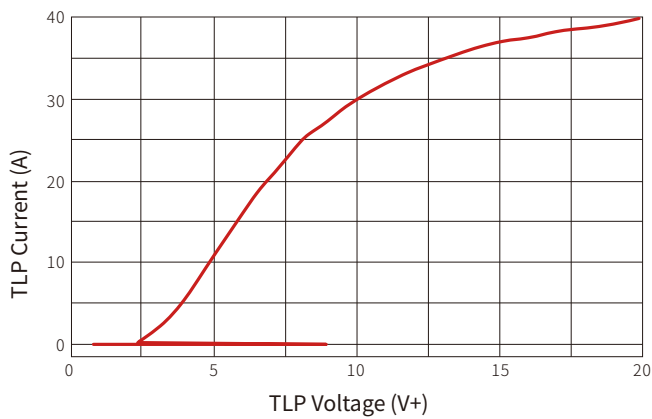
8/20 μ s Pulse Waveform



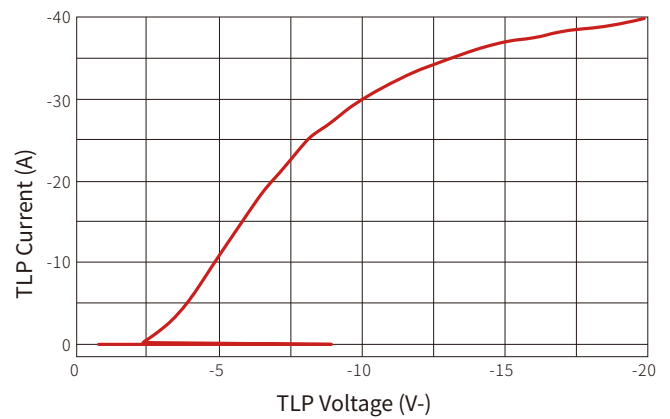
ESD Pulse Waveform (according to IEC 61000-4-2)



Transmission Line Pulsing (TLP)

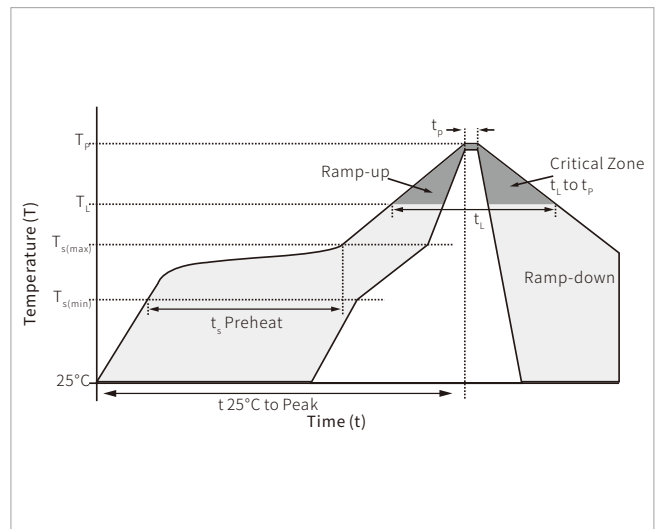


Transmission Line Pulsing (TLP)

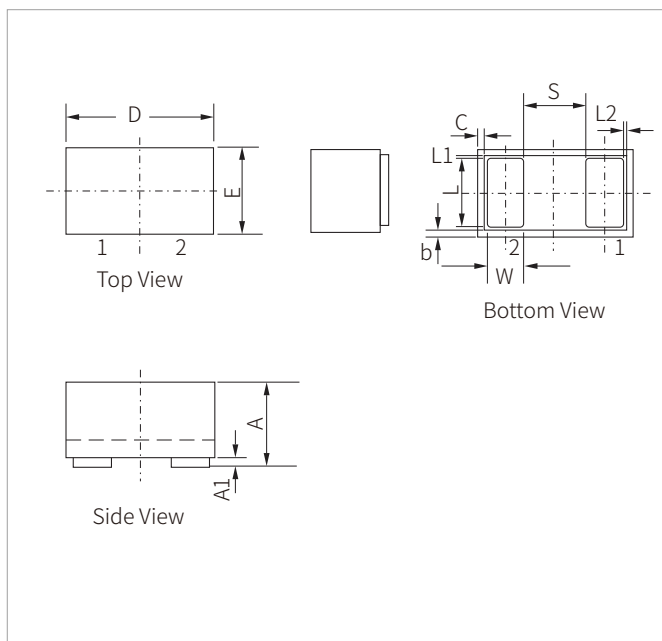


SOLDERING PARAMETERS

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

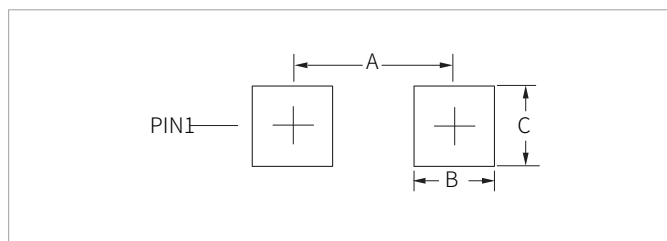


CSP0603 PACKAGE INFORMATION



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	0.15	0.25	0.006	0.010
A1	0.005	0.015	0	0.001
D	0.55	0.65	0.022	0.026
E	0.25	0.35	0.010	0.014
W	0.11	0.17	0.004	0.007
L	0.20	0.25	0.008	0.010
S	0.230		0.010	
L1	0.0075		0	
L2	0.005		0	
C	0.0375		0.001	
b	0.0375		0.001	

RECOMMENDED PAD LAYOUT DIMENSIONS



Ref.	Millimeters	Inches
A	0.40	0.016
B	0.125	0.005
C	0.225	0.009

ORDERING INFORMATION

Part Number	Component Package	QTY/Reel	Reel Size
SE06F07B1.2UA-SP	CSP0603	10000PCS	7"

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