

Features

- 40 Watts peak pulse power ($t_p=8/20\mu s$)
- Snap-Back technology
- Low clamping voltage
- Low leakage current
- Ultra low capacitance($0.25pF$ typical)
- ESD Protection for high-speed data lines
- IEC 61000-4-2 $\pm 10KV$ contact $\pm 12KV$ air
- IEC 61000-4-4(EFT)40A(5/50ns)
- IEC 61000-4-5(Lightning)5A(8/20 μs)
- RoHS compliant



DFN0603

Applications

- USB 3.0, USB 2.0, MHL
- HDMI 2.0, Display Port 1.3, eSATA
- Unified Display Interface(UDI).55

- Digital Visual Interface(DV)
- 1G/2.5G/5G/10G Ethernet

Absolute Maximum Rating

Rating	Symler	Value	Units
Peak Pulse Power ($t_p=8/20\mu s$)	P_{PP}	40	Watts
Peak Pulse Current ($t_p=8/20\mu s$)	I_{PP}	5	A
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	V_{ESD}	± 12 ± 10	KV
Junction Temperature	T_J	-55 to + 150	$^{\circ}C$
Storage temperature range	T_{stg}	-55 to + 150	$^{\circ}C$

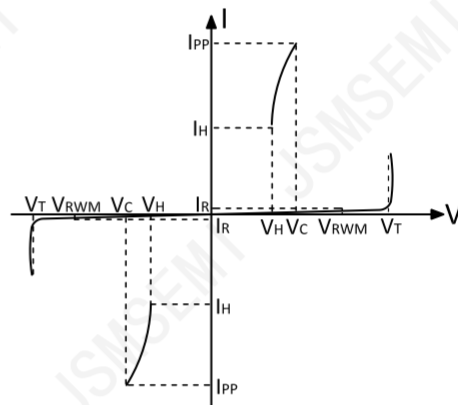
Electrical Characteristics(TA=25°C, Unless otherwise specified.)

Parameter	Symler	Conditions	Min.	Typ.	Max.	Units
Reverse Stand-Off Voltage	V_{RWM}	—	—	—	3.3	V
Reverse Breakdown Voltage	V_{BR}	$I_T=1mA$	5.5	6.8	12	V
Trigger voltage	V_T	$I_{PP}=5A, t_p=8/20us$	—	9.0	—	V
Reverse Leakage Current	I_R	$V_{RWM}=3.3V$	—	0.01	0.1	uA
Peak Pulse Current	I_{PP}	$t_p=8/20us$	—	—	5	A
Clamping Voltage	V_C	$I_{PP}=5A, t_p=8/20us$	—	6.5	8.0	V
Clamping Voltage(TLP 8A)		IEC 61000-4-2 Level 2 (±4 kV Contact, ±4 kV Air)	—	4.5	—	
Clamping Voltage(TLP 16A)		IEC 61000-4-2 Level 4 (±8 kV Contact, ±8 kV Air)	—	6.0	—	
Dynamic resistance	R_{dyn}	$0A \leq I_R \leq 30A; t_p=TLP$	—	0.25	—	Ω
Junction Capacitance	C_J	$V_R=0V, f=1MHZ$	—	0.25	0.35	pF

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

Symbol	Parameter
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}
V_{RWM}	Peak Reverse Working Voltage
I_R	Maximum Reverse Leakage Current @ V_{RWM}
V_T	Trigger voltage
I_T	Test Current
V_H	Holding voltage
I_H	Holding Current

Note:8/20us pulse Waveform.



Typical Characteristics

Figure 1: Peak Pulse Power vs. Pulse Time

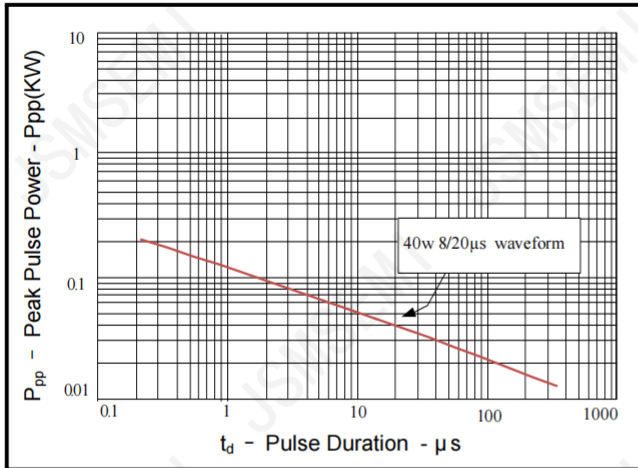


Figure 2: Power Derating Curve

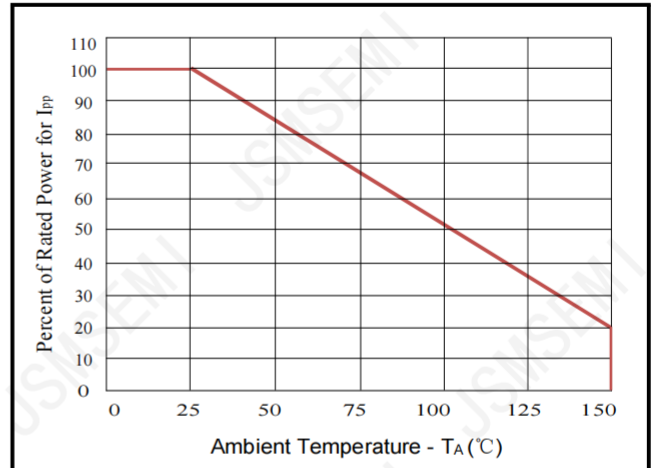


Figure 3: Pulse Waveform

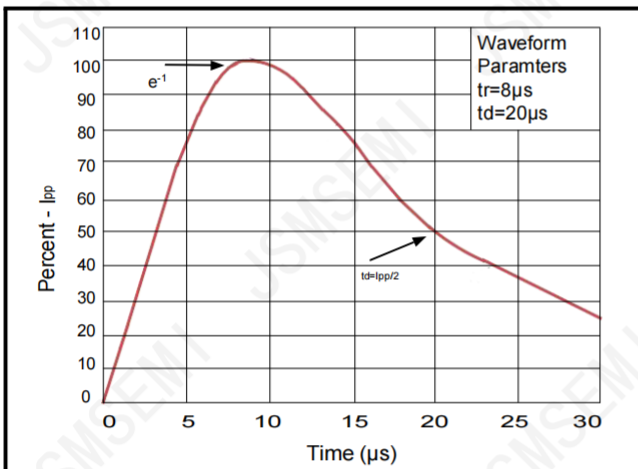
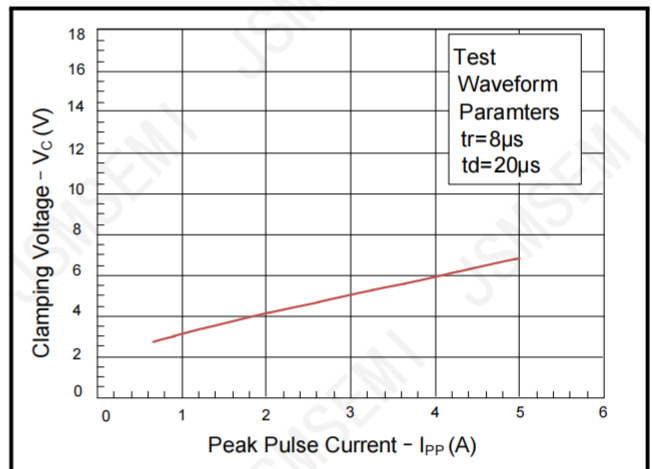
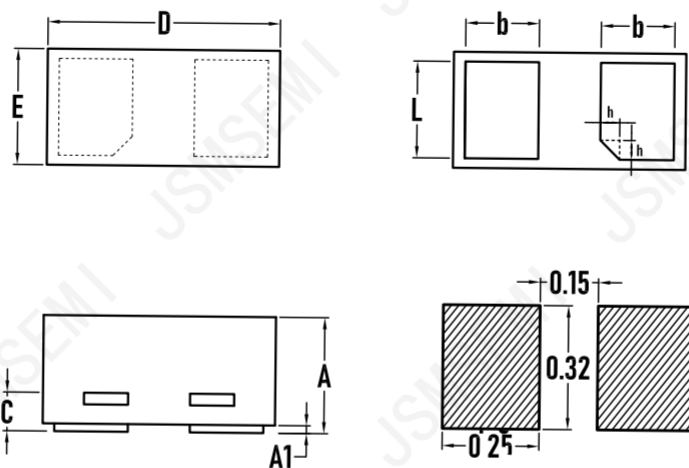


Figure 4: Clamping Voltage vs. I_{pp}



Outline Drawing – DFN0603



SYMBOL	MILLIMETER		
	MIN.	Typ.	MAX.
A	0.28	0.30	0.32
A1	0.00	0.02	0.05
C	0.05	0.10	0.15
D	0.55	0.60	0.65
E	0.25	0.30	0.35
b	0.14	0.19	0.24
L	0.20	0.25	0.30
h	—	0.05	0.10

Revision History

Rev.	Change	Date
V1.0	Initial version	6/27/2021

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