

Features

- 800Watts peak pulse power ($tp = 8/20\mu s$)
- Unidirectional configurations
- Solid-state silicon-avalanche technology
- Low clamping Voltage
- Low leakage current
- Protection one data/power line
- IEC 61000-4-2 $\pm 30kV$ contact ; $\pm 30kV$ air
- IEC 61000-4-4 (EFT) 40A (5/50ns)
- IEC 61000-4-5 (Lightning) 40A (8/20 μs)



SOD323

Mechanical Characteristics

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

Applications

- USB Vbus
- Power Line
- Power management

Absolute Maximum Rating

Rating	Symbol	Value	Units
Peak Pulse Power ($tp = 8/20\mu s$)	P_{PP}	800	Watts
Peak Pulse Current ($tp = 8/20\mu s$)	I_{PP}	40	A
ESD per IEC 61000-4-2 (Air)	V_{ESD}	30	KV
ESD per IEC 61000-4-2 (Contact)		30	
Lead Soldering Temperature	T_L	260(10seconds)	$^{\circ}C$
Junction Temperature	T_J	-55 to + 150	$^{\circ}C$
Storage Temperature	T_{stg}	-55 to + 150	$^{\circ}C$

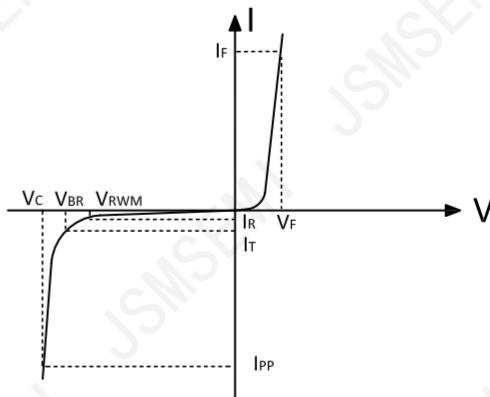
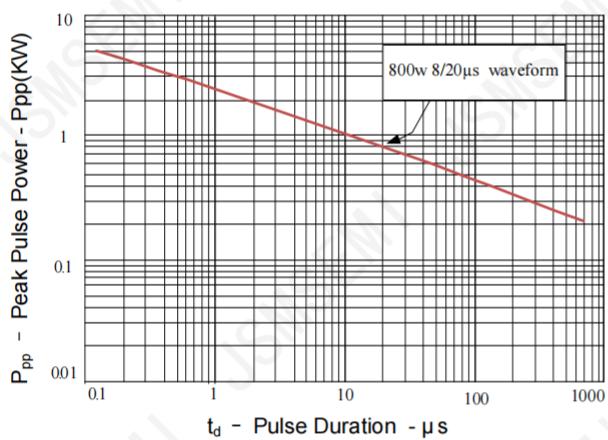
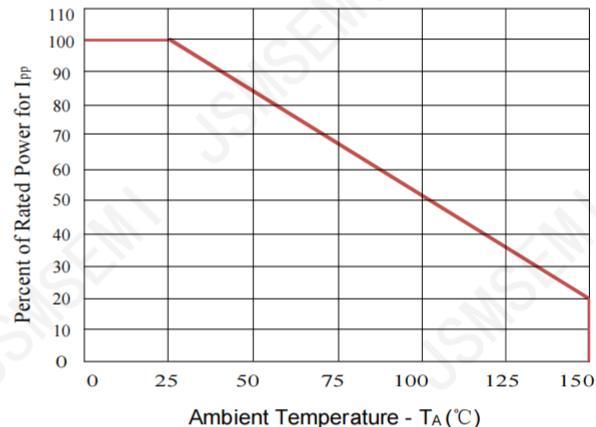
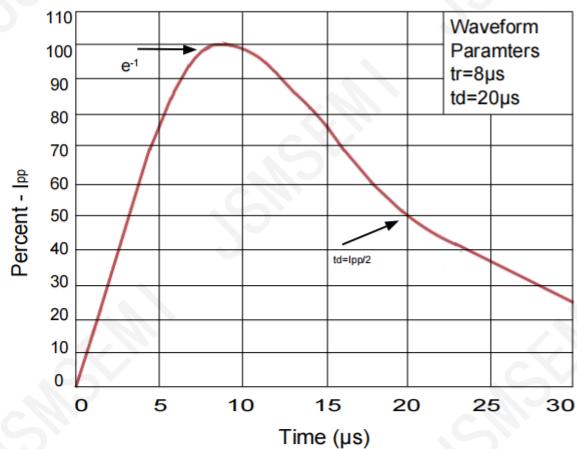
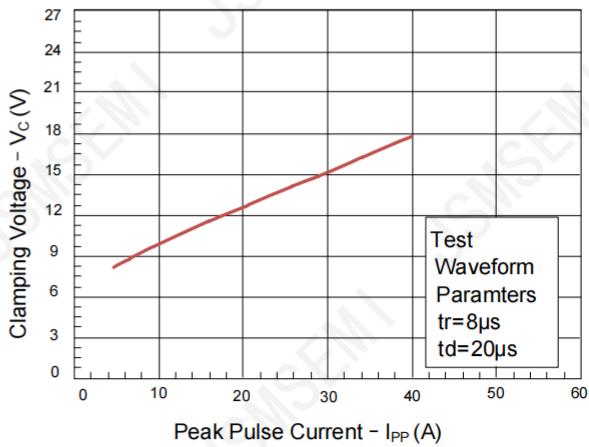
Electrical Characteristics

Parameter	Symbol	Conditions	Min	Typical	Max	Units
Reverse Stand-Off Voltage	V_{RWM}	—	—	—	3.3	V
Reverse Breakdown Voltage	V_{BR}	$I_T = 1mA$	4.0	5.3	7.0	V
Reverse Leakage Current	I_R	$V_{RWM} = 3.3V, T = 25^{\circ}C$	—	—	0.2	uA
Clamping Voltage	V_C	$I_{PP} = 40A, tp = 8/20\mu s$	—	18	20	V
Junction Capacitance	C_J	$V_R = 0V, T = 25^{\circ}C, f = 1MHz$	—	2.3	3.0	pF

Electrical Parameters ($T_A = 25^\circ\text{C}$ 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	Reverse Leakage Current @ V_{RWM}
V_{BR}	Breakdown Voltage @ I_T
I_T	Test Current

Note: 8/20μs 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


Revision History

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

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