

Features

- 6000Watts peak pulse power ($t_p = 8/20\mu s$)
- Bidirectional configurations
- Solid-state silicon-avalanche technology
- Low clamping voltage
- Low leakage current
- Protection one 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) 250A (8/20 μs)



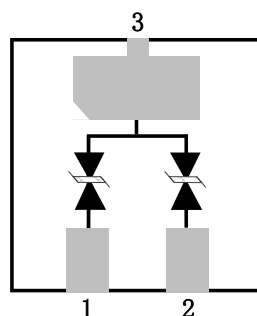
Applications

- USB Vbus,
- Power Line
- Power management

Mechanical Data

- DFN2 \times 2-3L package
- Molding compound flammability rating: UL 94V-0
- Packaging: Tape and Reel
- RoHS/WEEE Compliant

Schematic & PIN Configuration

DFN2 \times 2-3L

Absolute Maximum Rating

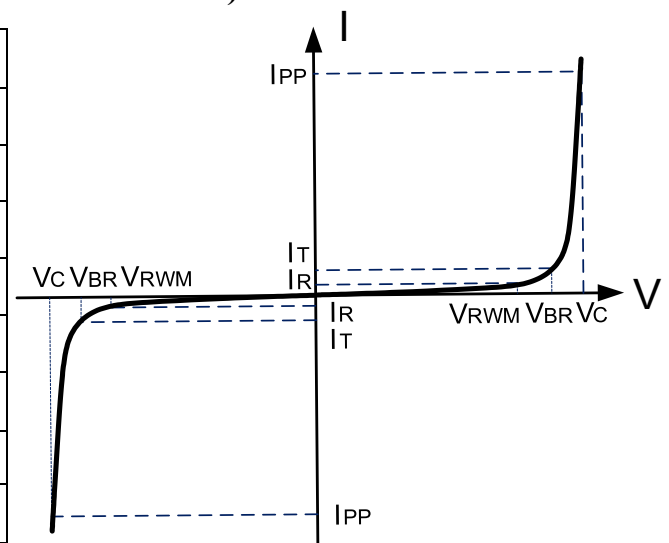
Rating	Symbol	Value	Units
Peak Pulse Power ($t_p = 8/20\mu s$)	P_{PP}	6000	Watts
Peak Pulse Current ($t_p = 8/20\mu s$) (note1)	I_{pp}	250	A
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	V_{ESD}	30 30	kV
Lead Soldering Temperature	T_L	260(10seconds)	°C
Junction Temperature	T_J	-55 to + 125	°C
Storage Temperature	T_{stg}	-55 to + 125	°C

Electrical Characteristics

Parameter	Symbol	Conditions	Min	Typical	Max	Units
Reverse Stand-Off Voltage	V_{RWM}				4.3	V
Reverse Breakdown Voltage	V_{BR}	$I_T = 1mA$	4.5	4.8		V
Reverse Leakage Current	I_R	$V_{RWM} = 4.3V, T = 25^\circ C$			1	μA
Clamping Voltage	V_C	$I_{PP} = 140A, t_p = 8/20\mu s$ (Pin3 to Pin1/Pin2)		20		V
		$I_{PP} = 250A, t_p = 8/20\mu s$ (Pin3 to Pin1+Pin2)		25		
Junction Capacitance	C_j	$V_R = 0V, f = 1MHz$ (Pin3 to Pin1/Pin2)		570		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}	Working Peak Reverse Voltage
I_R	Maximum Reverse Leakage Current @ V_{RWM}
V_{BR}	Breakdown Voltage @ I_T
I_T	Test Current



Note: 8/20 μs pulse waveform.



Typical Characteristics

Figure 1: Peak Pulse Power vs. Pulse Time

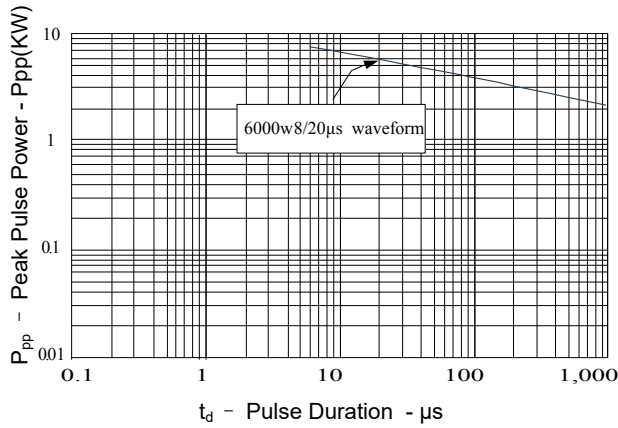


Figure 2: Power Derating Curve

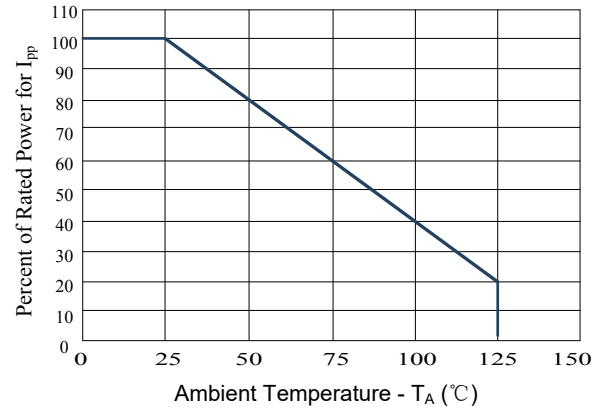


Figure3: Pulse Waveform

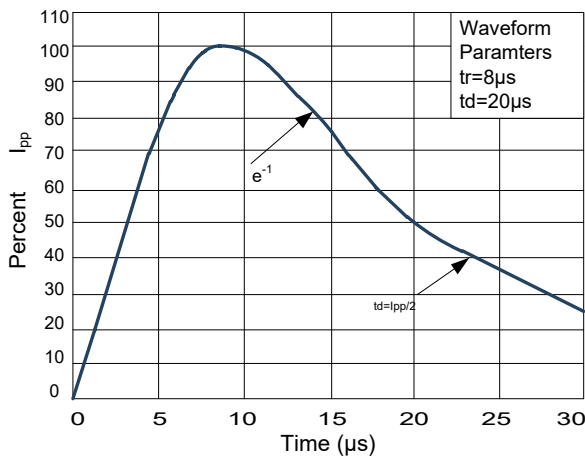
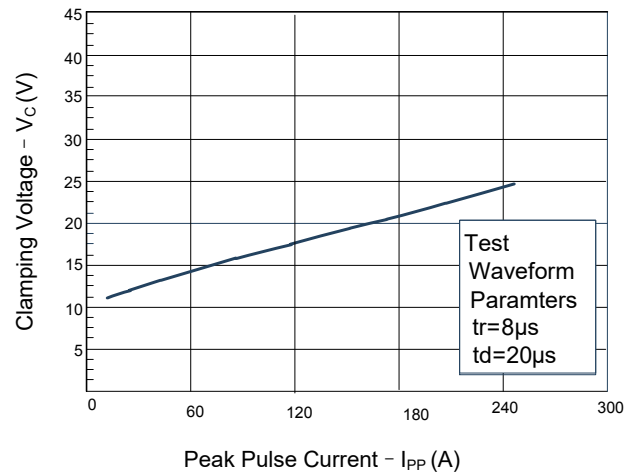
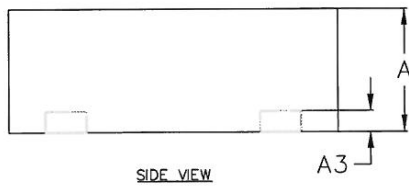
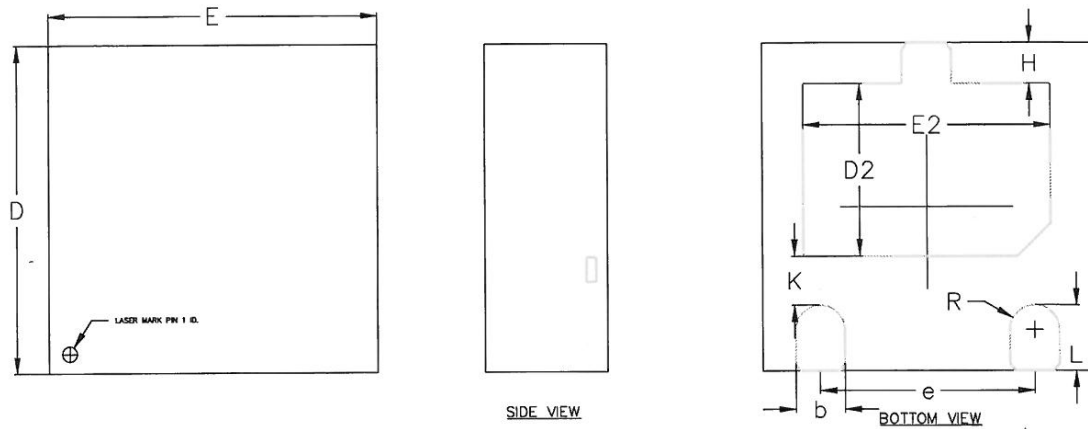
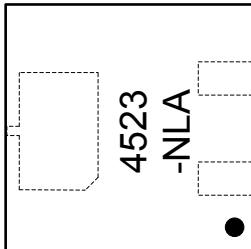


Figure 4: Clamping Voltage vs.Ipp



Outline Drawing – DFN2×2-3L


COMMON DIMENSION (MM)			
PKG	QFN1010		
REF.	MIN.	NOM.	MAX.
A	0.70	0.75	0.80
A3	0.200 REF		
b	0.25	0.30	0.35
D	1.90	2.00	2.10
E	1.90	2.00	2.10
D2	0.95	1.05	1.15
E2	1.40	1.50	1.60
e	1.20	1.30	1.40
H	0.20	0.25	0.30
K	0.20	0.30	0.40
L	0.35	0.40	0.45
R1	0.13	—	—

Marking

Ordering information

Order code	Package	Base qty	Delivery mode
RL20203Q0431C	DFN2×2-3L	3000	Tape and reel

