RL0201Q0551UC

ESD Protection Diode

Features

- 60Watts peak pulse power (tp = 8/20μs)
- Tiny DFN0603 package
- Bidirectional configurations
- Solid-state silicon-avalanche technology
- Low clamping voltage
- Low leakage current
- Low capacitance (Cj=0.40pF typ.)
- Protection one data/power line to:
- IEC 61000-4-2 ± 18kV contact ±20kV air
- IEC 61000-4-4 (EFT) 40A (5/50ns)
- IEC 61000-4-5 (Lightning) 3.5A (8/20μs)

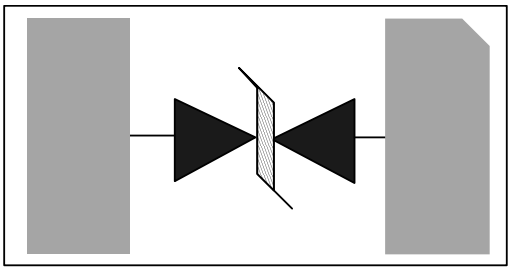
Applications

- Cell Phone Handsets and Accessories
- Microprocessor based equipment
- Personal Digital Assistants (PDA's)
- Notebooks, Desktops, and Servers
- Portable Instrumentation

Mechanical Data

- DFN0603 package
- Molding compound flammability rating: UL 94V-0
- Packaging: Tape and Reel
- RoHS/WEEE Compliant

Schematic & PIN Configuration



DFN0603

Absolute Maximum Rating

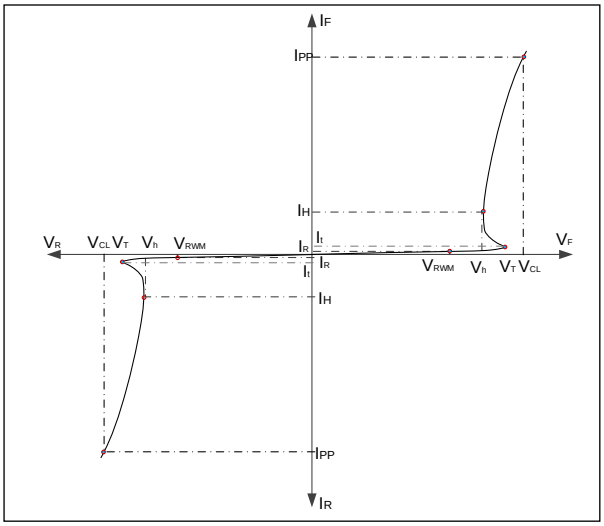
Rating	Symbol	Value	Units
Peak Pulse Power (t_p =8/20μs)	P_{PP}	60	Watts
Peak Pulse Current (t_p =8/20μs) (note1)	I_{pp}	3.5	A
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	V_{ESD}	20 18	kV
Lead Soldering Temperature	T_L	260(10seconds)	℃
Junction Temperature	T_J	-55 to + 125	℃
Storage Temperature	T_{stg}	-55 to + 125	℃

Electrical Characteristics

Parameter	Symbol	Conditions	Min	Typical	Max	Units
Reverse Stand-Off Voltage	V_{RWM}				5.5	V
Trigger Voltage	V_t	I_T=1mA		9.0	11.8	V
Holding Voltage	V_h	I_T=0.5mA	6.0	7.3	8.5	V
Reverse Leakage Current	I_R	V_{RWM}=5V,T=25℃			0.1	μA
Clamping Voltage	V_C	I_{PP}=3.5A,t_p=8/20μs		15	17	V
Junction Capacitance	C_j	V_R = 0V, f = 1MHz		0.4	0.5	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_h	Holding Voltage @ I_h
I_h	Holding Current
V_t	Trigger Voltage @ I_t
I_t	Test Current



Note:. 8/20μs pulse waveform.

Typical Characteristics

Figure 1: Peak Pulse Power vs. Pulse Time

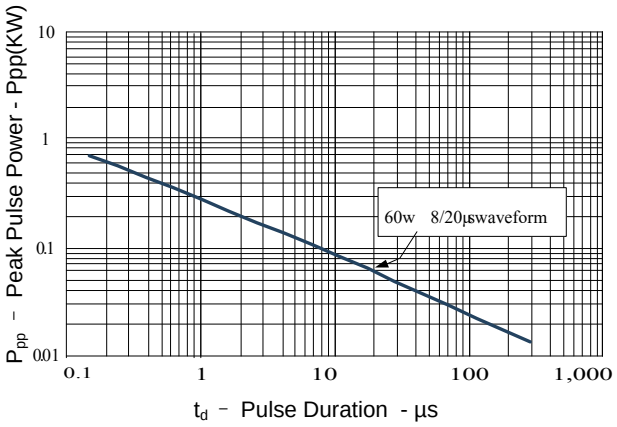


Figure 2: Power Derating Curve

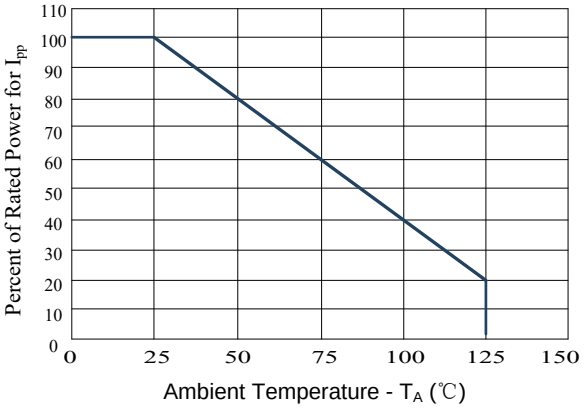


Figure3: Pulse Waveform

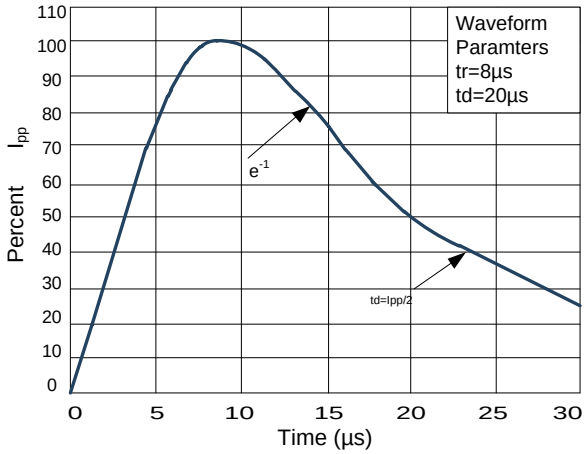


Figure 4: Clamping Voltage vs.Ipp

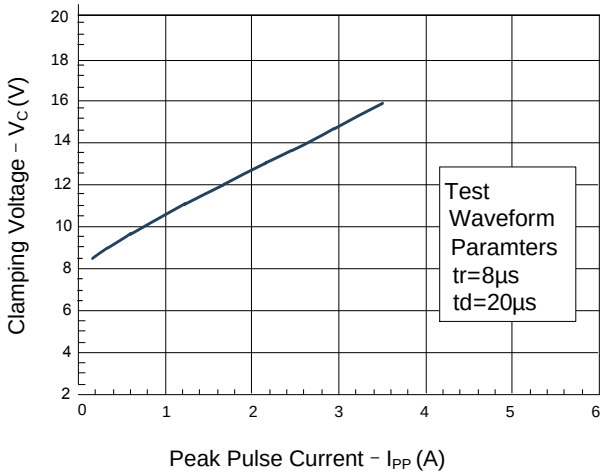


Figure5: Positive Clamping voltage (TLP)

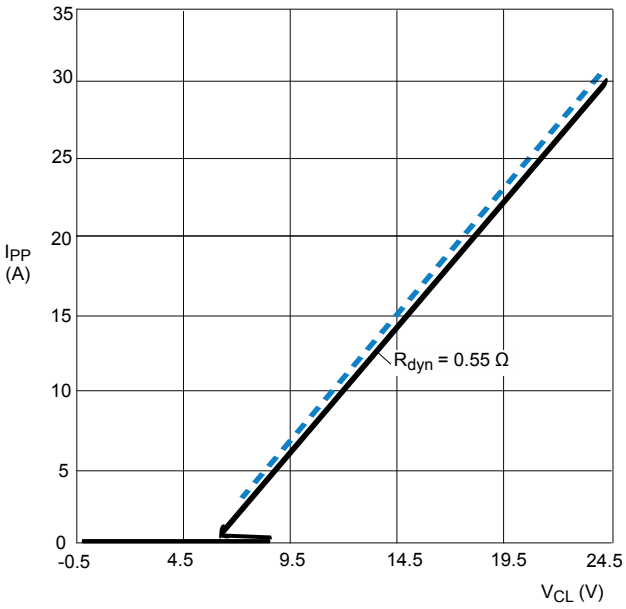
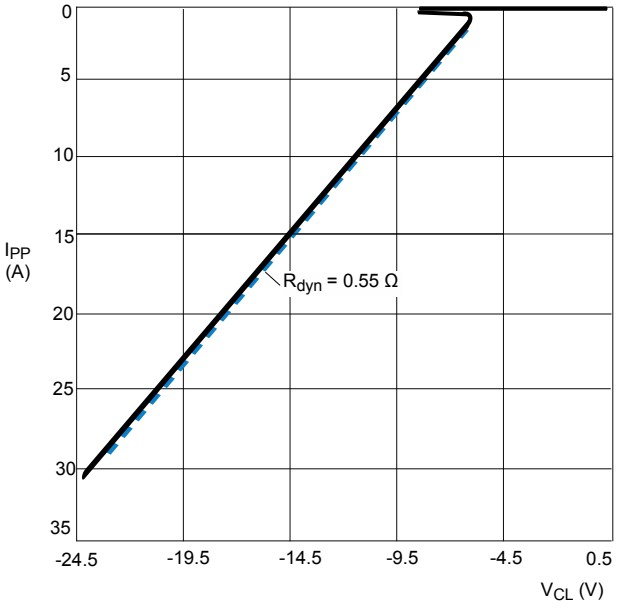
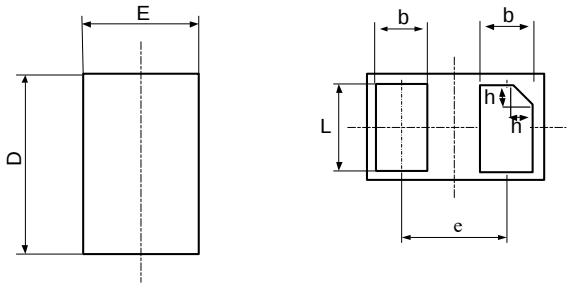
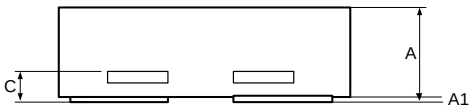


Figure5: Negative Clamping voltage (TLP)



Outline Drawing – DFN0603

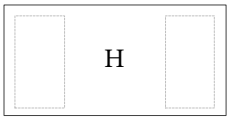




SIDE VIEW

Symbol	Dimensions in millimeters		
	Min	Nom	Max
A	0.28	0.30	0.34
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
e		0.40	
b	0.13	0.19	0.24
L	0.20	0.25	0.30
h	0	0.05	0.10

Marking



Ordering information

Order code	Package	Base qty	Delivery mode
RL0201Q0551UC	DFN0603	10k	Tape and reel