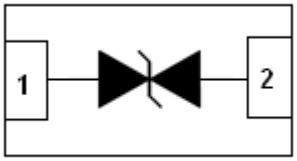
ASD05LCMA-Q1

Bidirectional TVS Diode for ESD Protection

FEATURES:

- ✧ Protects one bi-directional I/O line
- ✧ Low clamping voltage
- ✧ Low operating voltage: 5.0V
- ✧ ROHS compliant
- ✧ Compliant to Halogen-free
- ✧ Suffix "-Q1" for AEC-Q101

DFN0603



PIN Configuration

MAIN APPLICATIONS

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

PROTECTION SOLUTION TO MEET

- ✧ IEC61000-4-2 (ESD) ±15kV (air), ±15kV (contact)
- ✧ IEC61000-4-5 (Lightning) 4A (8/20ns)

MECHANICAL CHARACTERISTICS

- ✧ Package :DFN0603
- ✧ Molding Compound Flammability Rating : UL 94V-O
- ✧ Quantity Per Reel : 15,000pcs
- ✧ Lead Finish : Lead Free
- ✧ Marking Code：H

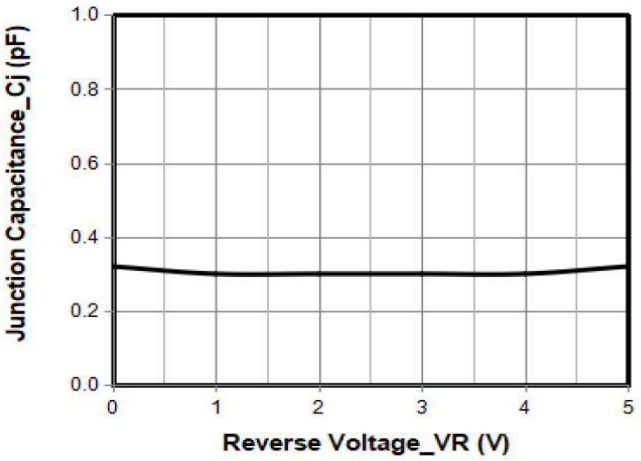
ABSOLUTE MAXIMUM RATINGS (T_A=25°C, RH=45%-75%, unless otherwise noted)

Parameter	Symbol	Value	Unit
Storage temperature range	T_{stg}	-55 to +150	℃
Operating junction temperature range	T_j	-55 to +125	℃
Lead Soldering Temperature	T_L	260 (10 sec.)	℃
Peak pulse power dissipation on 8/20 μs waveform	P_{PP}	100	W
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	V_{ESD}	+/- 15 +/- 15	kV

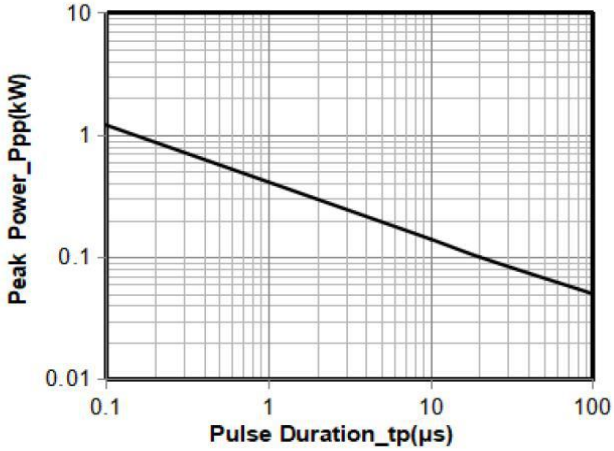
ELECTRICAL CHARACTERISTICS (T_A=25℃)

Parameter	Symbol	Conditions	Min	Typ	Max	Units
Reverse Working Voltage	V_R				5.0	V
Reverse Breakdown Voltage	V_{BR}	IT = 1mA	6.0			V
Reverse Leakage Current	I_R	V_R = 5V			0.2	μA
Peak Pulse Current	Ipp	t p =8/20μs			4	A
Clamping Voltage	V_C	I_{PP} = 1A, tp =8/20μs			12	V
		I_{PP} = 4A, tp =8/20μs			25	V
Junction Capacitance	C_J	V_R = 0V, f = 1MHz		0.3	0.5	pF

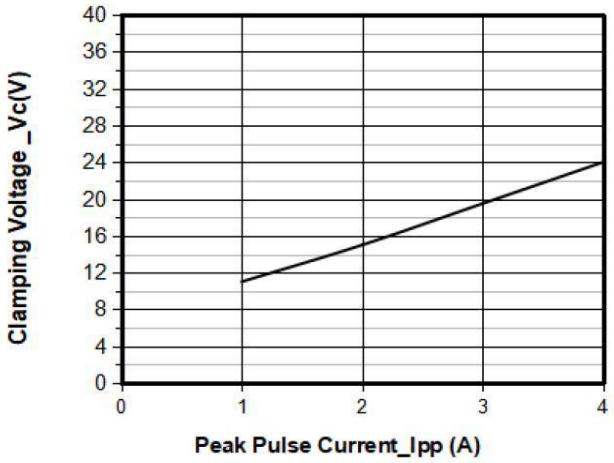
Typical Performance Characteristics (T_A=25ºC, unless otherwise noted)



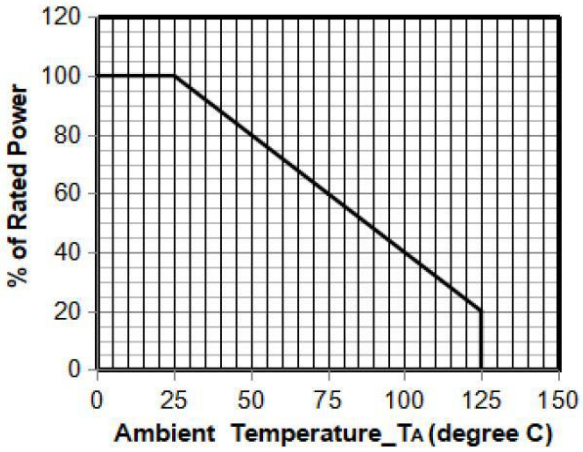
Junction Capacitance vs. Reverse Voltage



Peak Pulse Power vs. Pulse Time



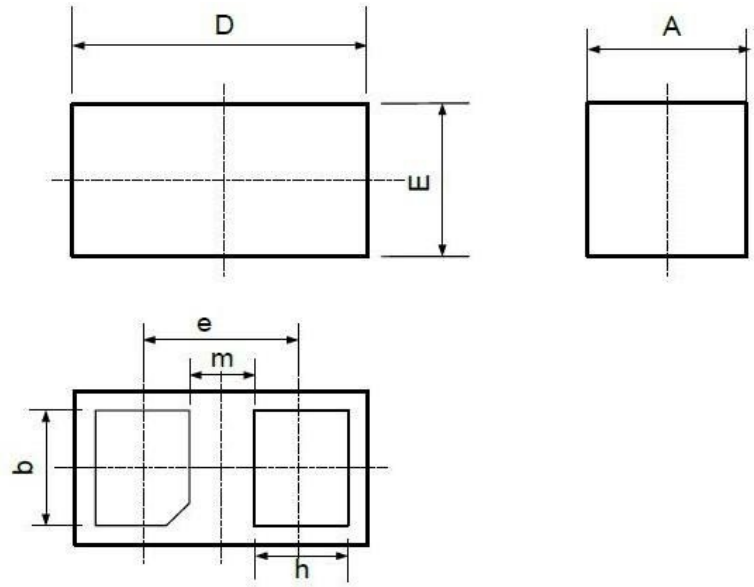
Clamping Voltage vs. Peak Pulse Current



Power Derating Curve

PACKAGE MECHANICAL DATA

DFN0603



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.28	0.32	0.011	0.013
D	0.55	0.65	0.022	0.026
E	0.25	0.35	0.010	0.014
b	0.20	0.30	0.008	0.012
e	0.350		0.014	
m	0.165		0.004	
h	0.07	0.17	0.003	0.007

SUGGESTED LAND PATTERN