



Single-Line ESD Protection Array

DESCRIPTION

The ESDQR5V0U are designed by TVS device that is to protect sensitive electronics from damage or latch-up due to ESD. They are designed for use in applications where board space is at a premium. ESDQR5V0U will protect single line, and may be used on line where the signal polarities swing above and below ground.

ESDE5V0U offer desirable characteristics for board level protection including fast response time, low operating and clamping voltage, and no device degradation.

ESDQR5V0U may be used to meet the immunity requirements of IEC 61000-4-2, level 4. The small DFN 1006 package makes them ideal for use in portable electronics such as cell phones, PDA's, notebook computers, and digital cameras.

APPLICATIONS

- ◆ Cellular Handsets and Accessories
- ◆ Cordless Phone
- ◆ PDA
- ◆ Notebooks and Handhelds
- ◆ Portable Instrumentation
- ◆ Digital Cameras
- ◆ MP3 Player

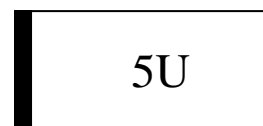
FEATURES

- ◆ Transient protection for data lines to IEC 61000-4-2 (ESD) $\pm 15\text{kV}$ (air), $\pm 8\text{kV}$ (contact)
IEC 61000-4-4 (EFT) 40A (5/50ns)
- ◆ Protects single I/O lines
- ◆ Working voltage: 5V
- ◆ Low leakage current
- ◆ Low operating and clamping voltages

PIN CONFIGURATION (DFN1006)



PART MARKING





Single-Line ESD Protection Array

ORDERING INFORMATION

Part Number	Package	Part Marking
ESDQR5VOU	DFN1006	5U

ABSOLUTE MAXIMUM RATINGS

(TA=25°C Unless otherwise noted)

Parameter	Symbol	Typical	Unit
Peak Pulse Power (tp = 8/20 μs)	Ppk	135	W
Maximum Peak Pulse Current (tp = 8/20 μs)	Ipp	10	A
ESD per IEC 61000 – 4 – 2 (Air)	Vpp	±15	KV
ESD per IEC 61000 – 4 – 2 (Contact)	Vpp	±8	KV
Operating Junction Temperature	TJ	-55 ~ 125	°C
Storage Temperature Range	TSTG	-55 ~ 150	°C
Lead Soldering Temperature	TL	260 (10sec)	°C

ELECTRICAL CHARACTERISTICS

(TA=25°C Unless otherwise noted)

Parameter	Symbol	Conditions	Min.	Typ	Max.	Unit
Reverse Stand – Off Voltage	VRWM				5	V
Reverse Breakdown Voltage	VBR	It = 1mA	6		7.6	V
Reverse Leakage Current	IR	VRWM = 5V , T=25°C			1	μA
Clamping Voltage	VC	Ipp = 10A , tp = 8/20 μs			13.5	V
Junction Capacitance	Cj	Between I/O Pin and GND VR = 0V , f = 1MHz			80	pF



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TYPICAL CHARACTERISTICS

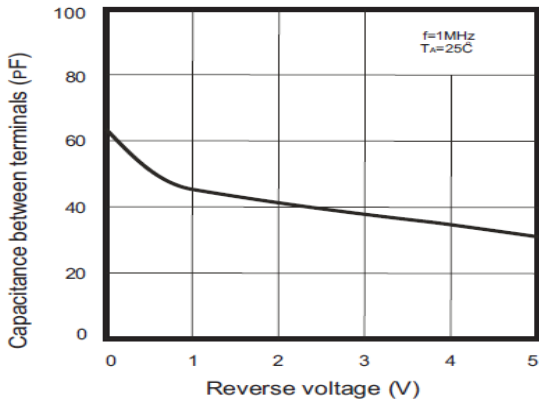


Fig 1 : Junction Capacitance V.S Reverse Voltage Applied

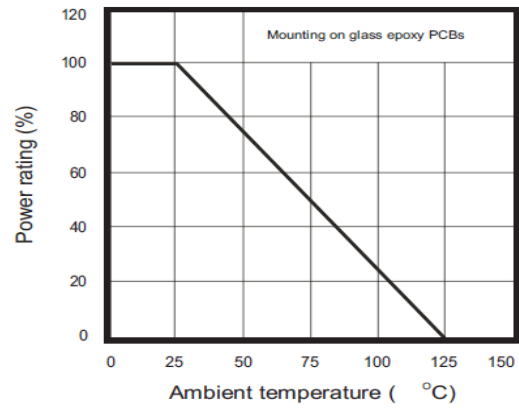


Fig 2 : Peak Plus Power V.S Exponential Plus Duration

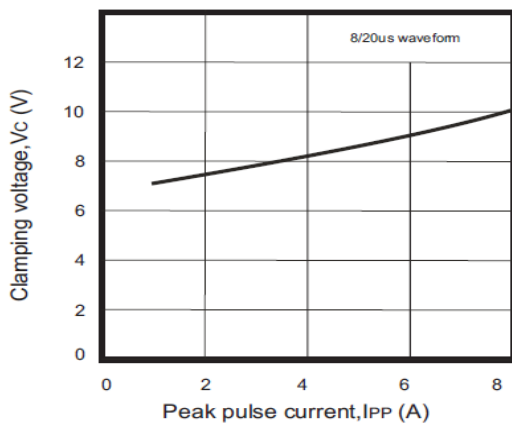


Fig 3 : Clamping Voltage VS Peak Pulse Current

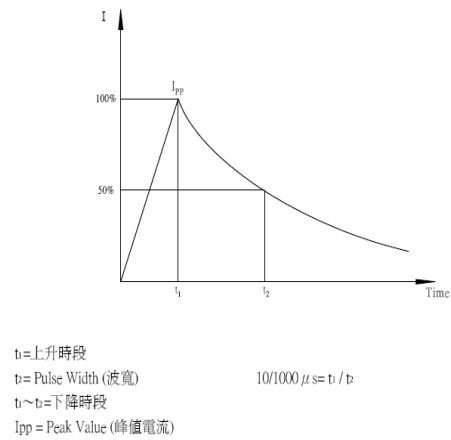
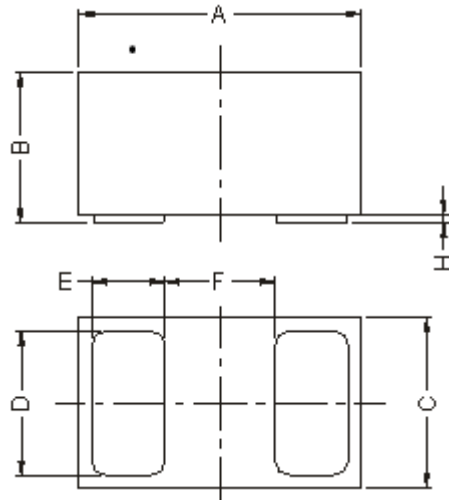


Fig 4 : Forward Voltage Drop V.S Peak Forward Current



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DFN1006 PACKAGE OUTLINE



DFN1006			
Dim	Min	Typ	Max
A	0.95	1.00	1.075
B	0.47	0.50	0.53
C	0.55	0.60	0.675
D	0.45	0.50	0.55
E	0.2	0.25	0.3
F	-	0.40	-
H	0	0.03	0.05

SOLDERING FOOTPRINT

