# ESD0603UC5VB

General description

Ultra low capacitance ESD Protection Diode in a DFN0603 Package.

FEATURES

- Ultra low Capacitance Typ 0.2 pF
- 100Watts peak pulse power(tp=8/20uS)
- Tiny DFN0603 package
- Bidirectional configurations
- R2R + Zener Technology
- Low Clamping voltage
- Low leakage current

Package Outline
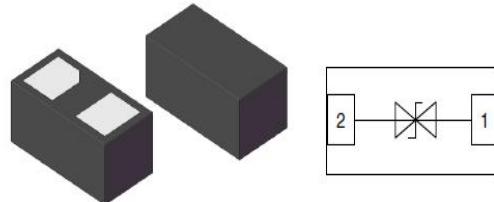
DFN0603 Package

Absolute Maximum Ratings (T_A = 25°C unless otherwise noted)

Symbol	Parameter	Value	Units
T_L	Max Lead Solder Temperature range (10 Second Duration)	260	°C
T_{stg}	Storage Temperature Range	-55 to +150	°C
T_{OP}	Max operation Temperature Range	125	°C
ESD	IEC61000-4-4 (EFT 5/50nS)	40	A
ESD	IEC61000-4-5 (8/20uS)	5	A
ESD	IEC61000-4-2 Air Discharge Contact Discharge	±20 ±15	KV

Device Marking:

Device Type	Marking
ESD0603UC5VB	U5 or 5BU

Symbol	Parameter	Value	Units
V_{ESD}	ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	±20 ±15	kV
Ipp	Peak Pulse Current (8/20μs)	5	A
Ppp	Peak Pulse Power (8/20μs)	100	W

ABSOLUTE MAXIMUM RATING

**Electrical Characteristics** (T_A = 25°C unless otherwise noted)

Symbol	Parameter	Test Condition	Min	Typ	Max	Units
V_{RWM}	Reverse Working Voltage				5	V
V_{BR}	Reverse Breakdown Voltage	$I_T = 1mA$	5.5	8.5		V
I_R	Reverse Leakage Current	$V_{RWM} = 5V$		5	100	nA
V_C	Clamping Voltage	$I_{PP} = 5A, t_p = 8/20μs$			20	V
V_C	Clamping Voltage	$V_{ESD}=8kV$		20		V
C_J	Junction Capacitance	$V_R = 0V, f = 1MHz$		0.2		pF

ESD0603UC5VB

Typical Characteristic：

Fig.1 Peak Pulse Power Rating Curve
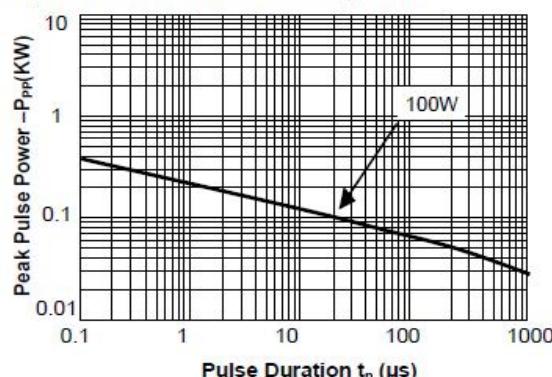
Fig.2 Pulse Derating Curve
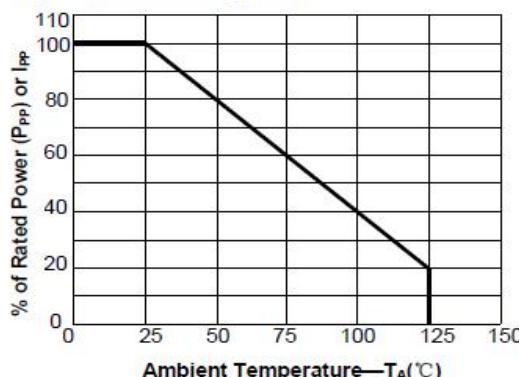
Fig.3 Pulse Waveform-8/20µs
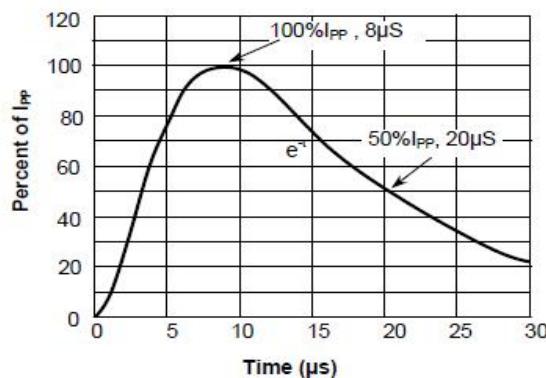
Fig.4 Pulse Waveform-ESD(IEC61000-4-2)
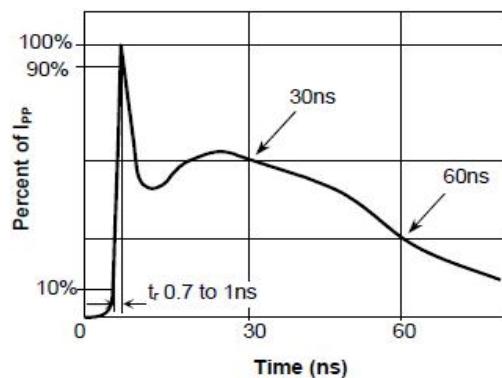
DFN1006 Package Outline
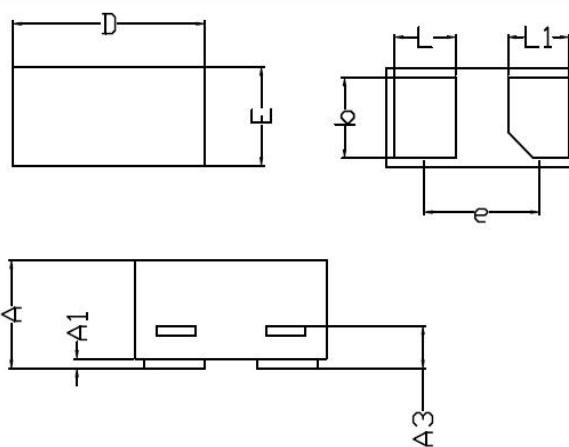
Symbol	Dimensions in millimeters		
	Min	Nom	Max
A	0.23	-	0.33
A1	0.00	-	0.05
A3	0.102 REF		
D	0.55	0.60	0.65
E	0.25	0.30	0.35
b	0.215	0.245	0.275
L	0.160	0.190	0.220
L1	0.160	0.190	0.220
e	0.355 BSC		

Pad Dimensions
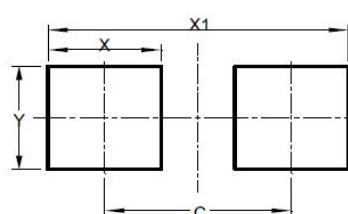
Dimensions	Value (mm)
C	0.380
X	0.230
X1	0.610
Y	0.300

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