

**Transient Voltage Suppressors for ESD Protection**

**Discription**

The SXESDUC2X7C is designed to protect voltage sensitive components from ESD. Excellent clamping capability, low leakage, and fast response time, make these parts ideal for ESD protection on designs where board space is at a premium. Because of its small size, it is suited for use in cellular phones, digital cameras and many other portable applications where board space is at a premium.

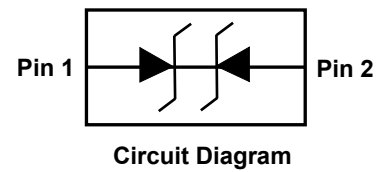
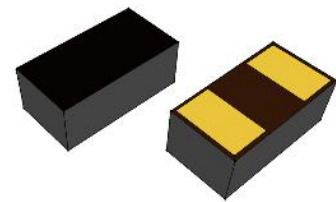
**Applications**

- | Cellular phones audio
- | Digital cameras
- | Portable applications
- | Mobile telephone

**Features**

- | Small Body Outline Dimensions: 0.61 mm x 0.31 mm
- | Low Body Height: 0.28 mm
- | Low Leakage
- | Response Time is Typically < 1 ns
- | ESD Rating of Class 3 per Human Body Model
- | IEC61000-4-2 Level 4 ESD Protection
- | These are Pb-Free Devices
- | We declare that the material of product compliance with RoHS requirements and Halogen Free.

DFN0603



**Ordering information**

Device	Marking	Shipping
SXESDUC2X7C	UC	12000/Tape&Reel

**MAXIMUM RATINGS**

Rating	Symbol	Value	Unit
IEC 61000-4-2 (ESD) Air discharge Contact discharge		±20 ±16	kV kV
Total Power Dissipation on FR-5 Board (Note 1) @ T <sub>A</sub> =25°C	PD	200	mW
Junction and Storage Temperature Range	T <sub>J</sub> ,T <sub>STG</sub>	-55 to 150	°C
Lead Solder Temperature – Maximum (10 Second Duration)	TL	260	°C

Stresses exceeding Maximum Ratings may damage the device. Maximum Rating are stress ratings only. Functional operation above the Recommended Operating Conditions is not implied. Extended exposure to stresses above the Recommended Operating Conditions may affect device reliability.

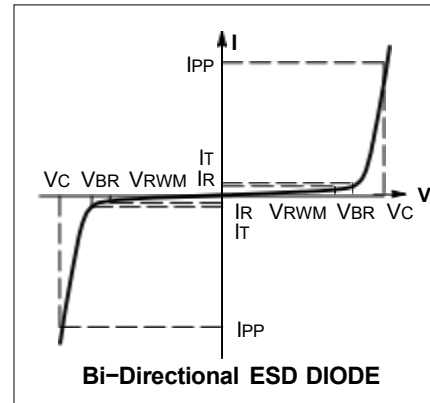
1. FR-5 = 1.0\*0.75\*0.62 in.

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**ELECTRICAL CHARACTERISTICS**

( $T_A = 25^\circ\text{C}$  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
$P_{pk}$	Peak Power Dissipation
$C$	Capacitance @ $V_R = 0$ and $f = 1.0$ MHz



**ELECTRICAL CHARACTERISTICS**

Device	$V_{RWM}$ (V)	$I_R$ ( $\mu$ A) @ $V_{RWM}$	$V_{BR}$ (V) @ $I_T$ (Note 1)		$I_T$ (mA)	$I_{PP}$ (A)	$V_C$ (V) @ Max $I_{PP}$	$P_{PK}$ (W) (8*20 $\mu$ s)	$C$ (pF)
	Max	Max	Min	Max		Max	Max	Max	Max
SXESDUC2X7C	7.0	0.5	7.6	8.8	1.0	4	20	80	0.35

Other voltage available upon request.

- $V_{BR}$  is measured with a pulse test current  $I_T$  at an ambient temperature of  $25^\circ\text{C}$
- Surge current waveform per Figure 1.

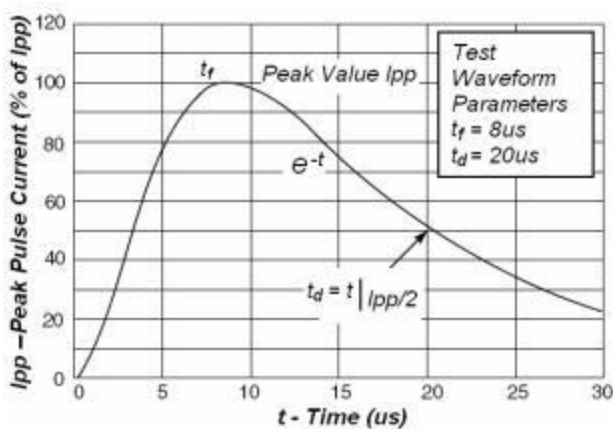


Fig1. Pulse Waveform

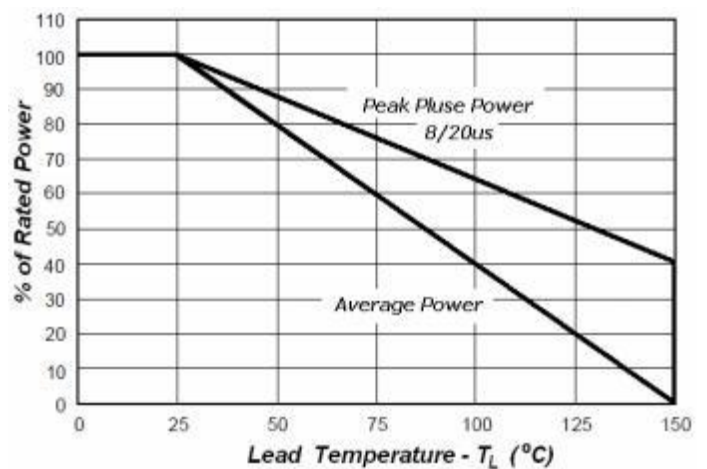


Fig2. Power Derating Curve

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Fig3. ESD Clamping Voltage Screenshot Positive 8 kV Contact per IEC61000-4-2



Fig4. ESD Clamping Voltage Screenshot Negative 8 kV Contact per IEC61000-4-2

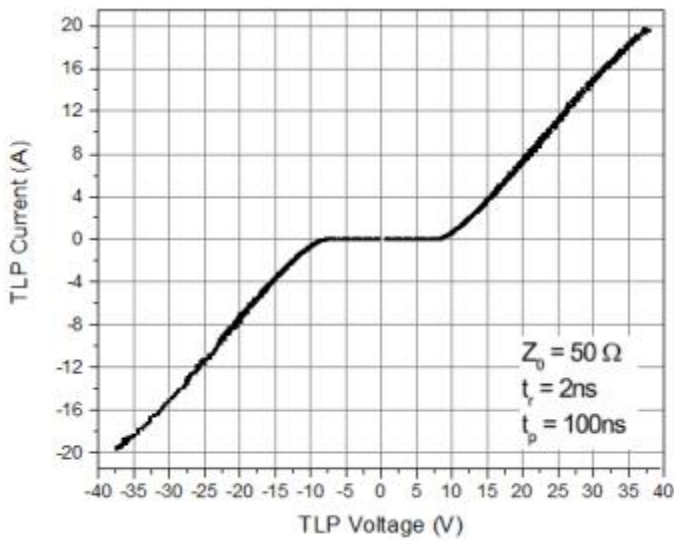
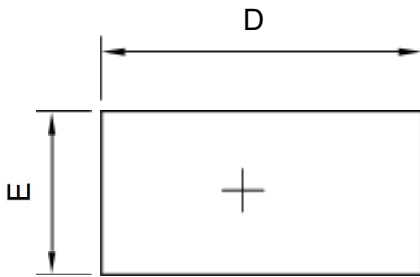
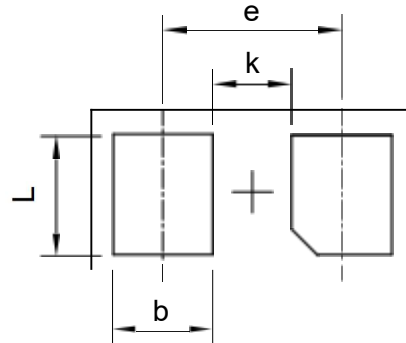


Fig5. TLP Measurement

**OUTLINE AND DIMENSIONS**



TOP VIEW



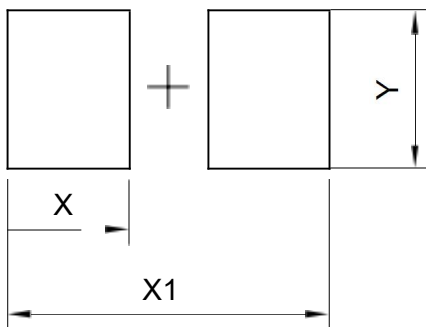
BOTTOM VIEW

DFN0603-DL			
Dim	Min	Typ.	Max
D	0.58	0.61	0.64
E	0.28	0.31	0.34
e	-	0.34	-
L	0.20	0.23	0.26
b	0.16	0.19	0.22
A	0.25	0.28	0.31
k	0.12	0.15	0.18
All Dimensions in mm			



SIDE VIEW

**SOLDERING FOOTPRINT**



DFN0603-DL	
DIM	(mm)
X	0.23
X1	0.61
Y	0.30