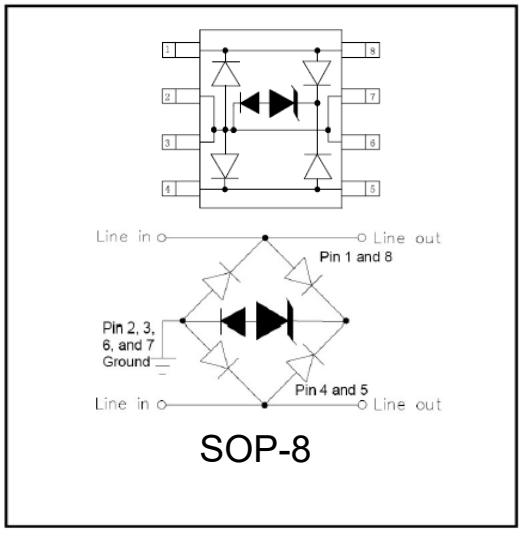
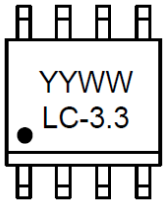
ESD Protection Diode



Features

- ●Protects two lines in common and differential mode
- ●Ultra low leakage: nA level
- ●Low operating voltage: 3.3V
- ●Moisture Sensitivity: Level 3 per J-STD-020
- ●JEDEC SOP-8 package
- ● Marking:



LC-3.3 = Device Marking Code
YYWW = Date Code
Dot denotes Pin1

■**Maximum Ratings**(Ta=25°C unless otherwise specified)

PARAMETER	SYMBOL	VALUE	UNIT
Operating Temperature Range	T_J	-55 to +125	℃
Storage Temperature Range	T_{STG}	-55 to +150	℃
IEC61000-4-2(ESD)Air	V_{ESD} (1)	±30	KV
IEC61000-4-2(ESD)Contact		±30	KV
Peak Pulse Power	P_{PP} (2)	1800	W
Peak Pulse Current	I_{PP} (2)	100	A

(1).Device stressed with ten non-repetitive ESD pulses.
(2).Non-repetitive current pulse 8/20μs exponential decay waveform according to IEC61000-4-5.

■Electrical Characteristics（T_a=25℃ Unless otherwise specified）

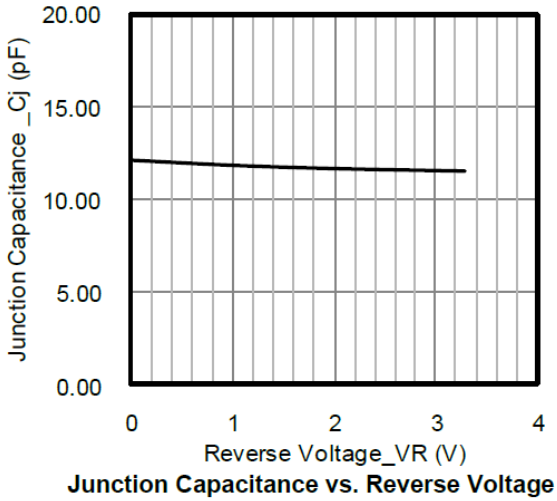
PARAMETER	Symbol	UNIT	Conditions	Min	Typ	Max
Reverse Working Voltage	V_{RWM} (1)	V				3.3
Reverse Leakage Current	I_R	uA	V_{RWM}=3.3V			1.0
Punch-Through Voltage	VPT	V	I_T=2uA	3.5		
Snap-Back Voltage	VSB	V	IT = 50mA	2.8		
Clamping Voltage	V_C (2)	V	I_{PP}=50A any I/O pin to ground (3)			11
Clamping Voltage	V_C (2)	V	I_{PP}=50A between I/O pins (3)			13
Clamping Voltage	V_C (2)	V	I_{PP}=100A any I/O pin to ground (3)			15
Clamping Voltage	V_C (2)	V	I_{PP}=100A between I/O pins (3)			18
Junction Capacitance	C_J	pF	V_R=0V,f=1MHz,between I/O pins and ground (3)		16	25
Junction Capacitance	C_J	pF	V_R=0V,f=1MHz,between I/O pins		8	12

(1).Other voltages available upon request.
(2).Non-repetitive current pulse 8/20μs exponential decay waveform according to IEC61000-4-5
(3).I/O pins are Pin 1,4,5 and 8

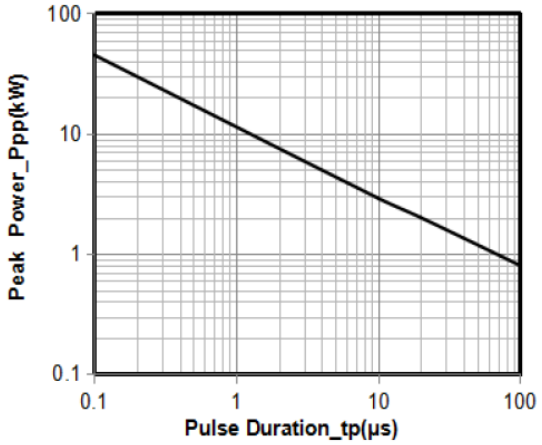
■Thermal Characteristics （T_a=25℃ Unless otherwise specified）

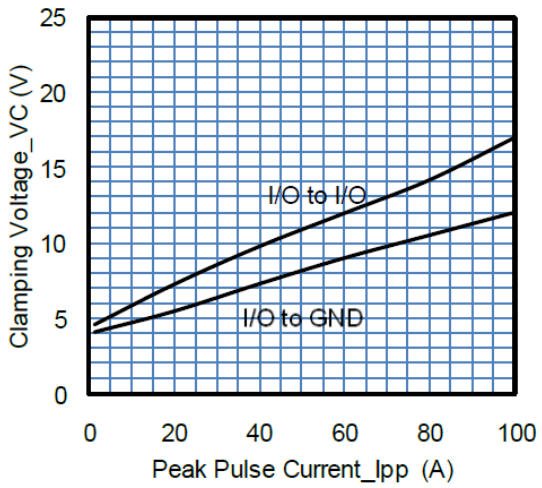
PARAMETER	SYMBOL	UNIT	LC03-3.3
Thermal Resistance(Typical)	$R_{\theta J-A}$	℃/W	184
	$R_{\theta J-C}$	℃/W	74

■ Characteristics (Typical)

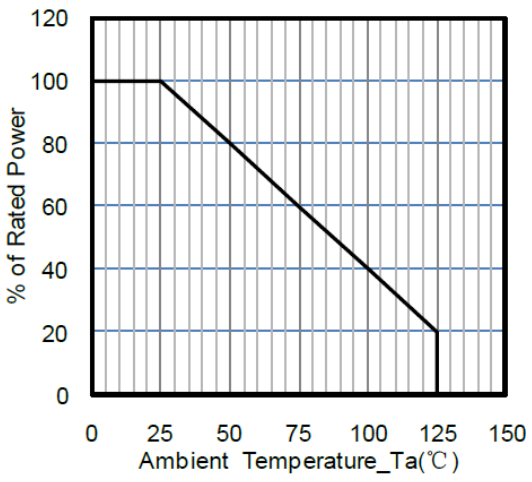


Junction Capacitance vs. Reverse Voltage

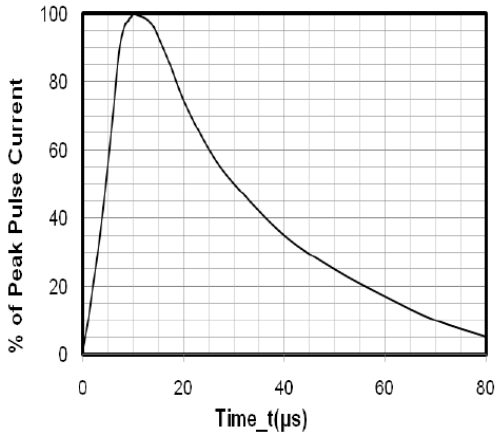




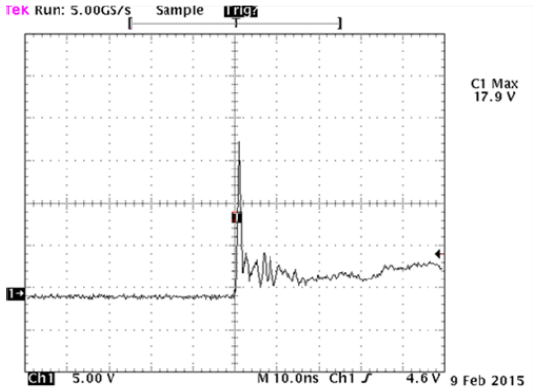
Clamping Voltage vs. Peak Pulse Current



Power Derating Curve



8 X 20μs Pulse Waveform

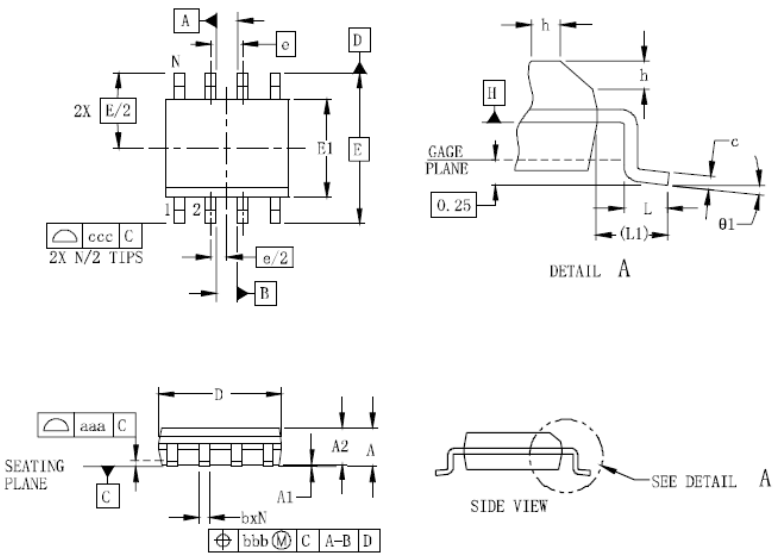


Note：Data is taken with a 10x attenuator

ESD Clamping Voltage

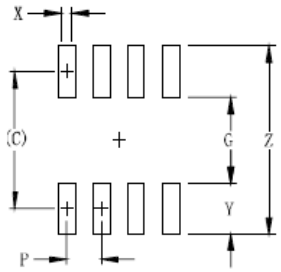
+8 kV Contact per IEC61000−4−2

■ Outline Dimensions



SYM	DIMENSIONS					
	MILLIMETERS			INCHES		
	MIN	NOM	MAX	MIN	NOM	MAX
A	1.35		1.75	0.053		0.069
A1	0.10		0.25	0.004		0.010
A2	1.25		1.65	0.049		0.065
b	0.31		0.51	0.012		0.020
c	0.17		0.25	0.007		0.010
D	4.80	4.90	5.00	0.189	0.193	0.197
E1	3.80	3.90	4.00	0.150	0.154	0.157
E	6.00 BSC			0.236 BSC		
e	1.27 BSC			0.050 BSC		
h	0.25		0.50	0.010		0.020
L	0.40	0.72	1.04	0.016	0.028	0.041
L1	(1.04)			(0.041)		
N	8			8		
θ1	0°		8°	0°		8°
aaa	0.10			0.004		
bbb	0.25			0.010		
ccc	0.20			0.008		

■ Soldering Footprint



SYM	DIMENSIONS	
	MILLIMETERS	INCHES
C	(5.20)	0.205
G	3.00	0.118
P	1.27	0.050
X	0.60	0.024
Y	2.20	0.087
Z	7.40	0.291

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