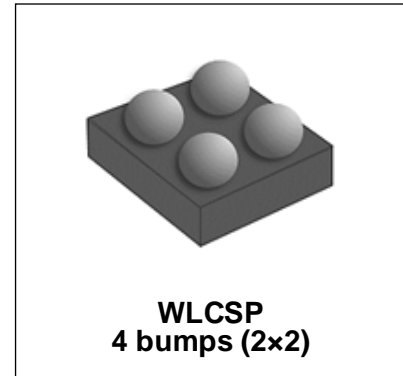


Features

- Small 2x2 solder ball WLCSP package with 0.4 mm pitch
- Unidirectional device
- High-performance ESD and EOS protection
- Very low clamping voltage
- Working Voltage: 14 V

**IEC COMPATIBILITY (EN61000-4)**

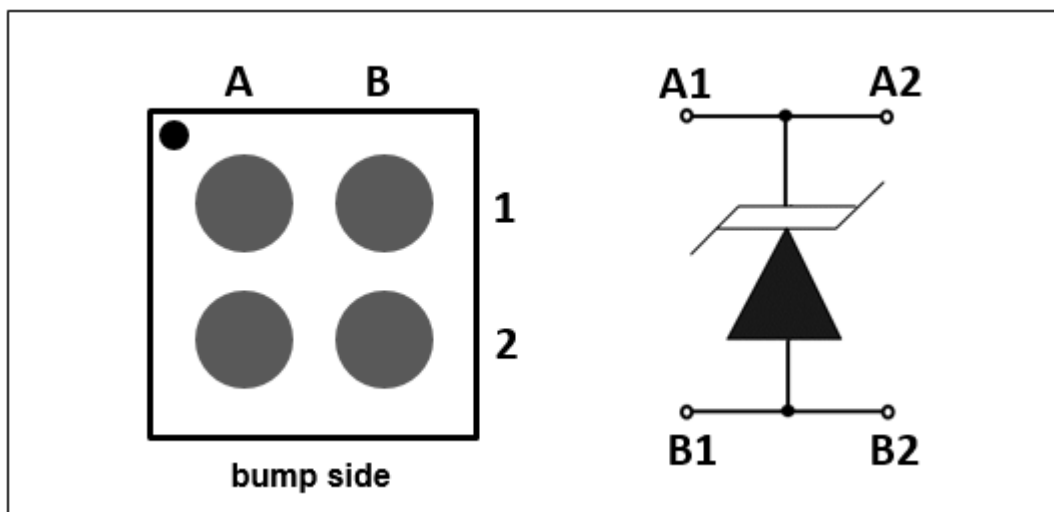
- IEC 61000-4-2 (ESD) $\pm 30\text{kV}$ (air), $\pm 30\text{kV}$ (contact)
- IEC 61000-4-4 (EFT) 40A (5/50ns)
- IEC 61000-4-5 (Lightning) 30A (8/20 μs)

Mechanical Characteristics

- Flip Chip-4 bumps package
- Marking : Marking Code
- Packaging : Tape and Reel per EIA 481
- RoHS Compliant

Applications

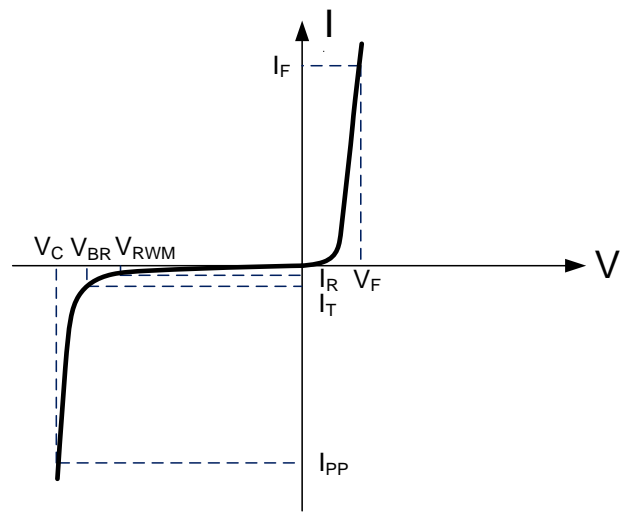
- Mobile handsets
- Portable devices
- Wireless data systems

Schematic & PIN Configuration

Absolute Maximum Rating			
Rating	Symbol	Value	Units
Peak Pulse Power ($t_p = 8/20\mu s$)	P_{PP}	900	Watts
Operating Temperature	T_J	-55 to + 125	°C
Storage Temperature	T_{STG}	-55 to +150	°C

Electrical Parameters (T=25°C)

Symbol	Parameter
I_{PP}	Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}
V_{RWM}	Reverse Stand-Off Voltage
I_R	Reverse Leakage Current @ V_{RWM}
V_{BR}	Breakdown Voltage @ I_T
I_T	Test Current
I_F	Forward Current
V_F	Forward Voltage @ I_F



Electrical Characteristics

WS14DZ03						
Parameter	Symbol	Conditions	Minimum	Typical	Maximum	Units
Reverse Stand-Off Voltage	V_{RWM}				14	V
Reverse Breakdown Voltage	V_{BR}	$I_T=1mA$	15			V
Reverse Leakage Current	I_R	$V_{RWM}=14V, T=25^\circ C$			200	nA
Peak Pulse Current	I_{PP}	$t_p = 8/20\mu s$			30	A
Forward Voltage	V_F	$I_F=850mA$			1.3	V
Clamping Voltage	V_C	$I_{PP}=30A, t_p=8/20\mu s$			30	V
ESD Clamping Voltage ¹	V_C	$I_{PP} = 4A$ $t_p = 0.2/100ns$		18		V
ESD Clamping Voltage ¹	V_C	$I_{PP} = 16A$ $t_p = 0.2/100ns$		20		V
Dynamic Resistance ^{1,2}	R_{DYN}	$TLP=0.2/100ns$		0.2		Ω
Junction Capacitance	C_j	$V_R = 0V, f = 1MHz$		115	150	pF

Note:

1. TLP Setting : $t_p=100ns, t_r=0.2ns, I_{TLP}$ and V_{TLP} sample window: $t_1=70ns$ to $t_2=90ns$.
2. Dynamic resistance calculated from $I_{PP}=4A$ to $I_{PP}=16A$ using "Best Fit"

Typical Characteristics

Figure 1: Peak Pulse Power vs. Pulse Time

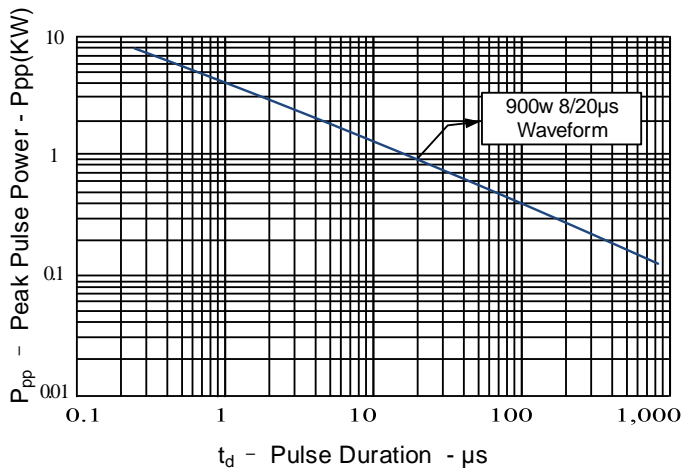


Figure 2: Power Derating Curve

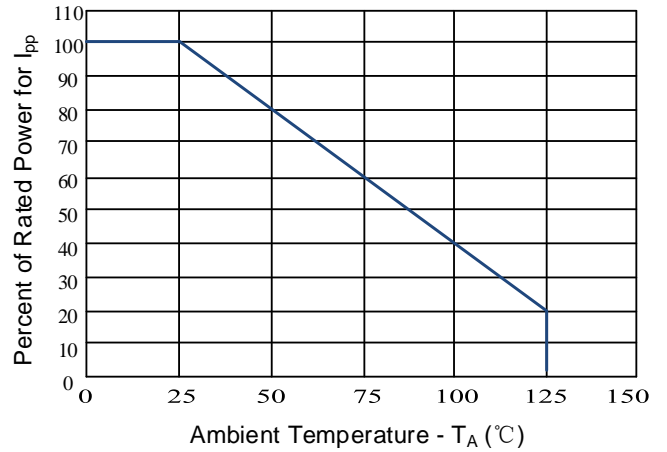


Figure 3: Clamping Voltage vs. Peak Pulse Current

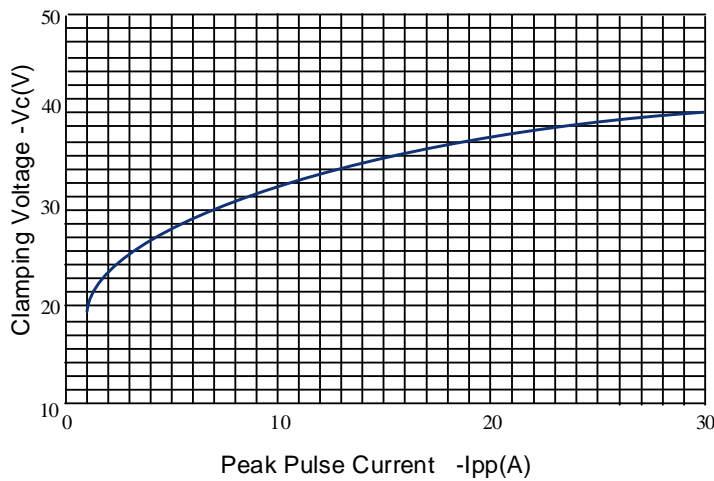


Figure 4: Normalized Junction Capacitance vs. Reverse Voltage

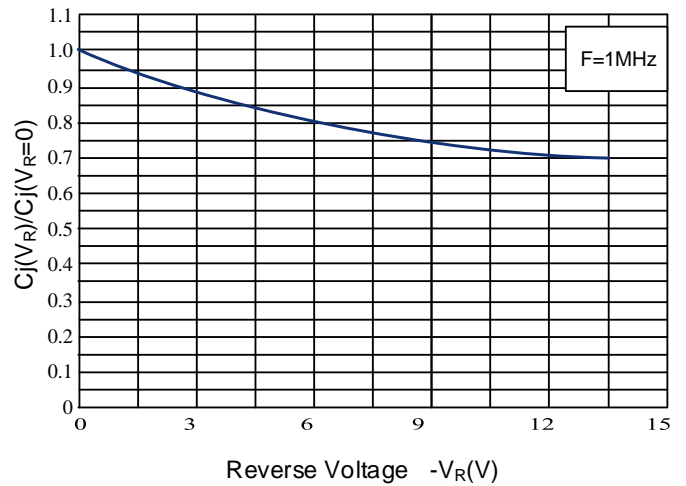


Figure 5: 8/20µs Pulse Waveform

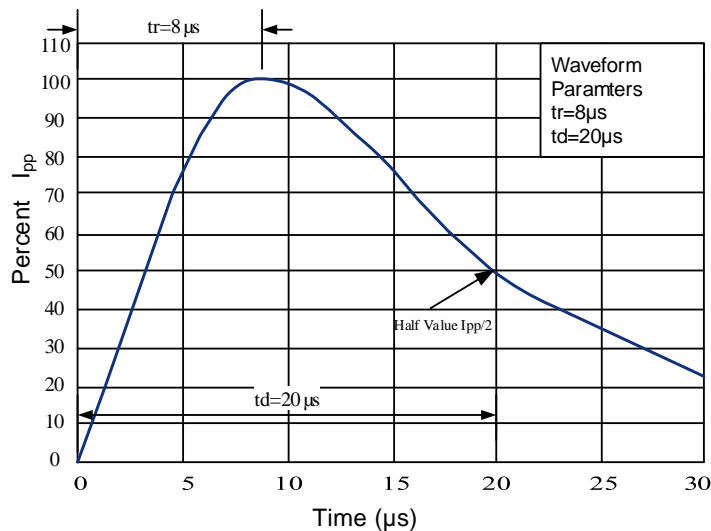
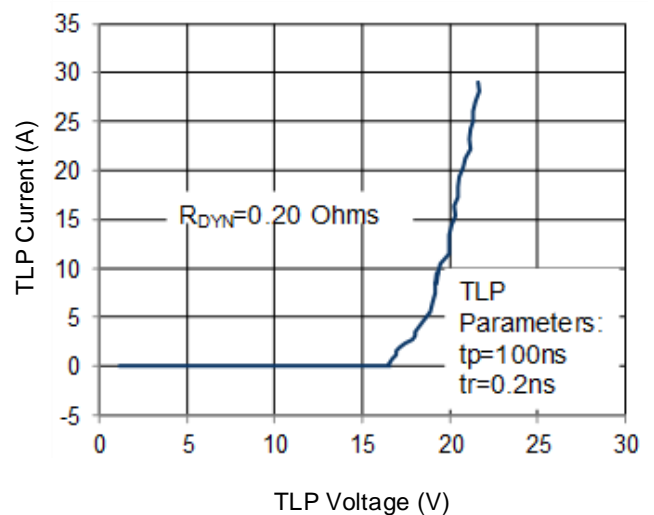


Figure 6: TLP I-V Curve



Outline Drawing –WLCSP 4 bumps (2x2)

PACKAGE OUTLINE

WLCSP - 4 bumps

SYMBOL	MILIMETER(mm)		
	MIN	NOM	MAX
A	0.56	0.61	0.66
A1	0.18	0.2	0.22
A2	0.38	0.41	0.44
b	0.21	0.26	0.31
D	0.71	0.76	0.81
E	0.71	0.76	0.81
e	0.38	0.4	0.42

SOLDERING

SYMBOL	MILIMETER(mm)		
	MIN	NOM	MAX
c	-	0.25	-
D	0.71	0.76	0.81
E	0.71	0.76	0.81
e	-	0.4	-
f	-	0.325	-

Marking Codes

Part Number	WS14DZ03
Marking Code	

Package Information

Qty: 5k/Reel

CONTACT INFORMATION

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WAYON website: <http://www.way-on.com>

For additional information, please contact your local Sales Representative.

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Specifications are subject to change without notice.
The device characteristics and parameters in this data sheet can and do vary in different applications and actual device performance may vary over time.
Users should verify actual device performance in their specific applications.