

OMNIVISION WS4623C Image Sensor Instructions

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WS4623C Image Sensor Instructions

WS4623C

3A, 19 m, 300nA Quiescent current, and 100nA Standby current Load Switch

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Descriptions

The WS4623C is a single channel load switch with ultra-low on-resistance MOSFET. It is designed for load switching applications with ultra-low quiescent current (300nA) and ultra-low standby current (100nA). The device is controlled by an external logic pin, allowing optimization of battery life, and portable device autonomy. The WS4623C contains a P-channel MOSFET that can operate over an input voltage range of 1.2V to 5.5V and can support a maximum continuous current of 3A. The WS4623C is available in a small 1 x 1.5mm CSP-6L Package. Standard products are Pb-free and Halogen-free.

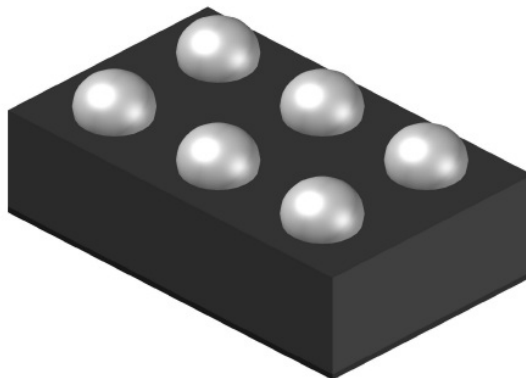
Features

- Input Voltage Range:1.2V~5.5V
- Main switch Ron: 19m @ 4.5V
- Maximum Output current: 3A.
- Quiescent current : 300nA @ Typ
- Standby current: 100nA @ Typ
- Recommend capacitor: 1F
- Active High EN Pin
- CSP-6L 1 x 1.5 mm

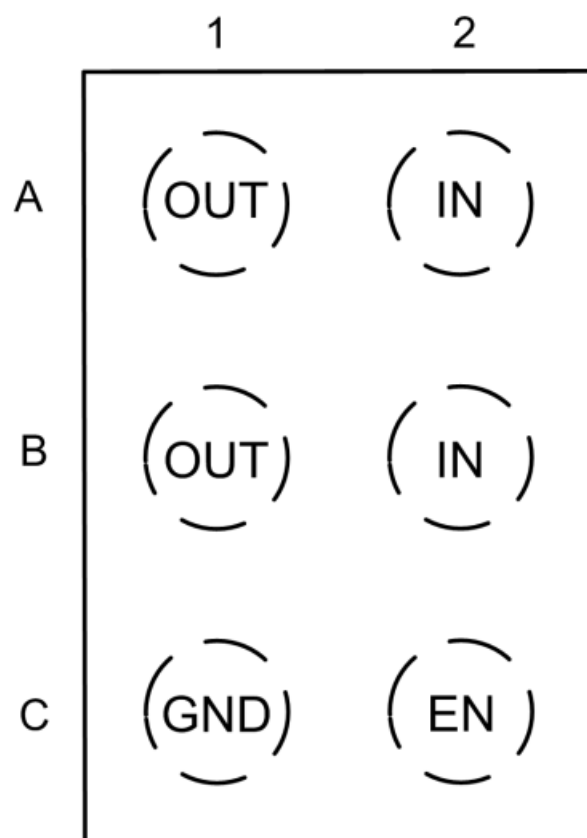
Applications

- MP3/MP4 Players
- Cellphones, radiophones, digital cameras
- Bluetooth, wireless handsets
- Other portable electronics device

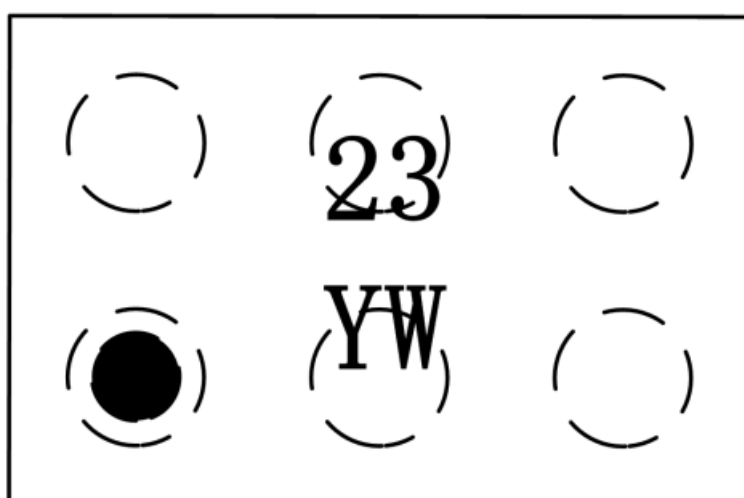
<http://www.ovt.com>



CSP-6L



Pin Configuration (Top View)



CSP-6L

23 : Device Code

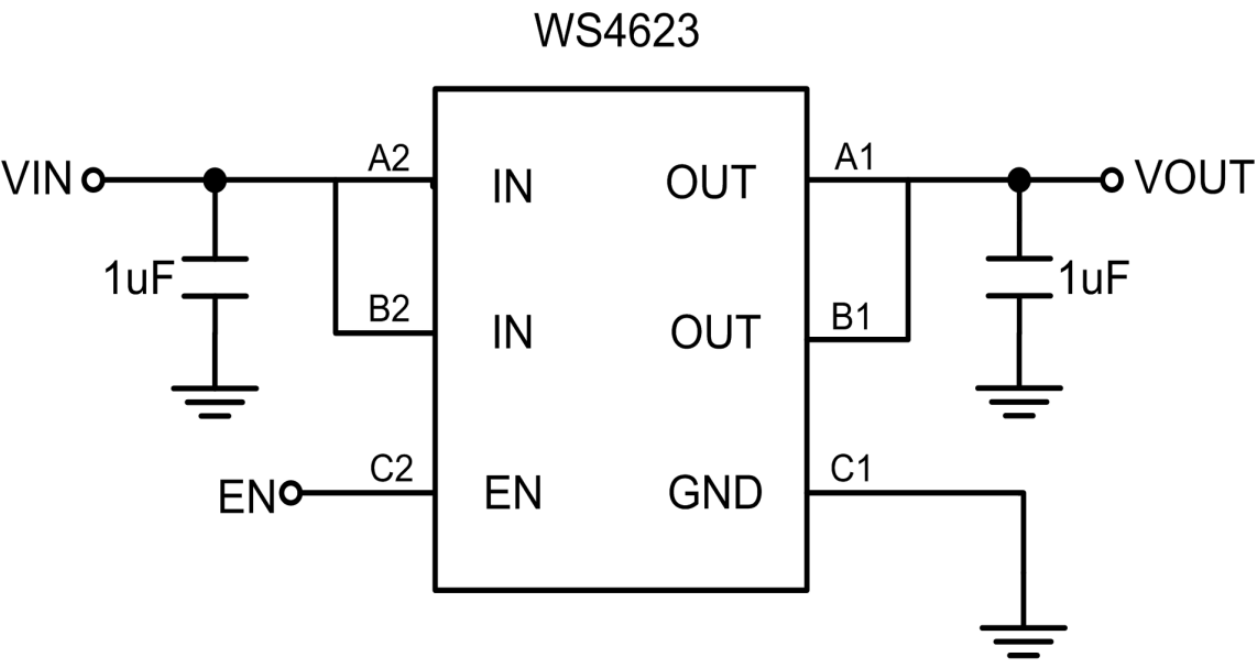
Y : Year code

W : Week code

Order information

Device	Marking	Package	Shipping
WS4623C-6/TR	23YW	CSP-6L	3000/Reel&Tape

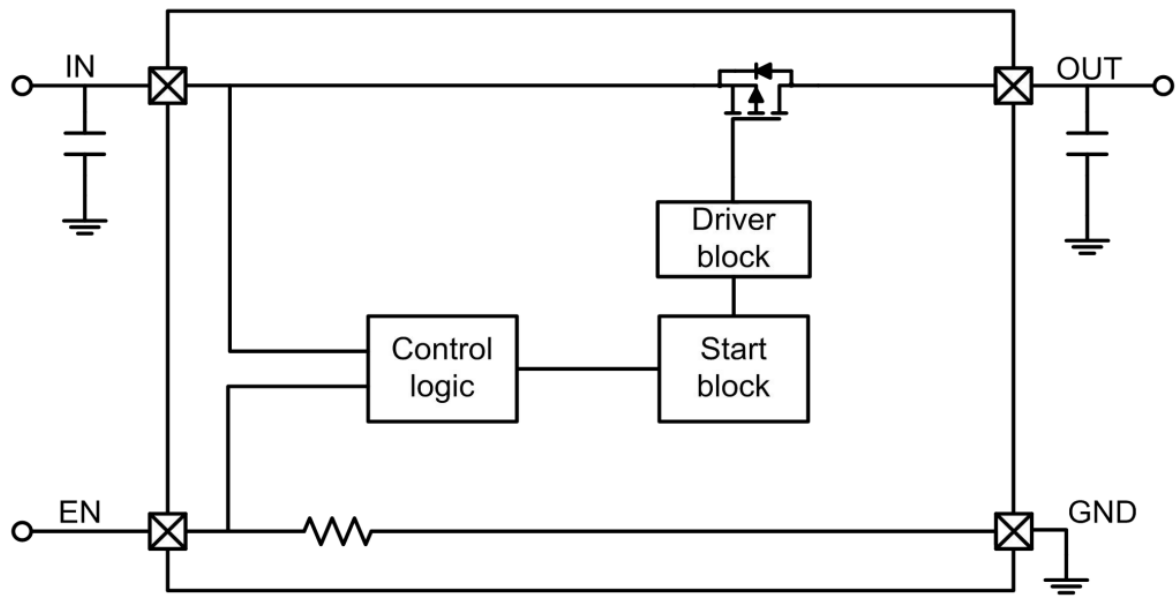
Typical Application



Pin Description

PIN	Symbol	Description
A1, B1	OUT	Output pin
A2, B2	IN	Input pin
C1	GND	Ground
C2	EN	Enable (Active high)

Block Diagram



Absolute Maximum Ratings

Parameter		Value	Unit
VIN Range		-0.3—'6.5	V
VEN Range		-0.3-6.5	V
VOUT Range		-0.3—'6.5	V
Storage Temperature Range		-40 – 150	°C
Junction Temperature Range		-40 – 125	°C
Lead Temperature		260	°C
Moisture Sensitivity		Level-1	
ESD Ratings	HBM	8000	V
	MM	400	V

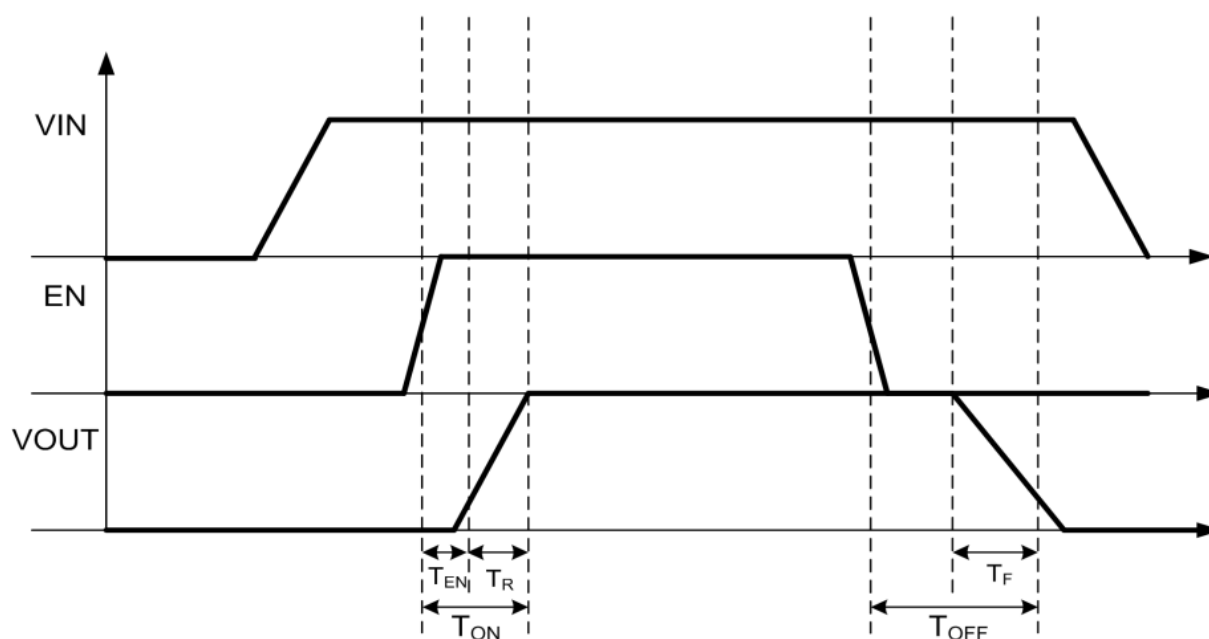
Recommend Operating Ratings

Parameter	Value	Unit
Operating Power voltage	1.2~5.5	V
Enable Voltage	0-5.5	V
Maximum DC current	3	A
Operating ambient temperature	-40~85	°C
Operating Junction temperature	-40-125	°C
Decoupling input capacitor	1	uF
Decoupling output capacitor	1	uF
Power Dissipation Rating(25 °C,WLCSP package)	0.66	W
Power Dissipation Rating(85 °C,WLCSP package)	0.26	W
Thermal Resistance, ROJA (CSP-6L)	100	°C/W

Electronics Characteristics (Ta=25oC, VIN=5V, CIN=COUT=1F, unless otherwise noted)

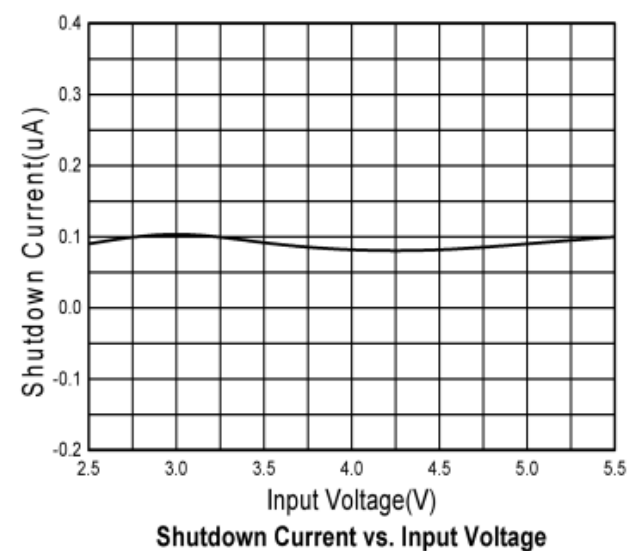
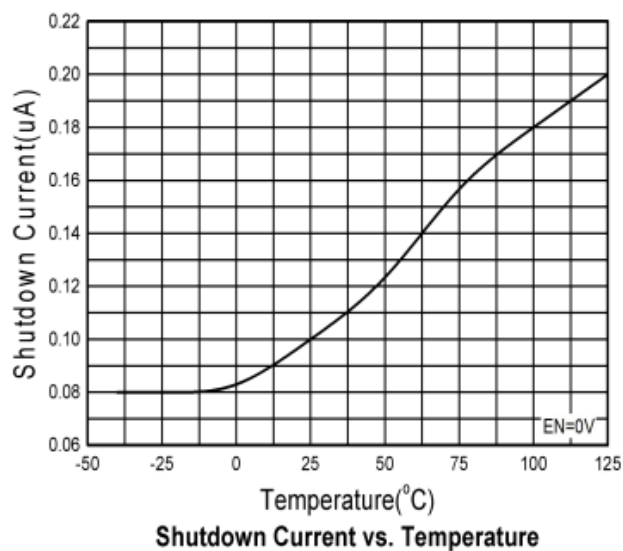
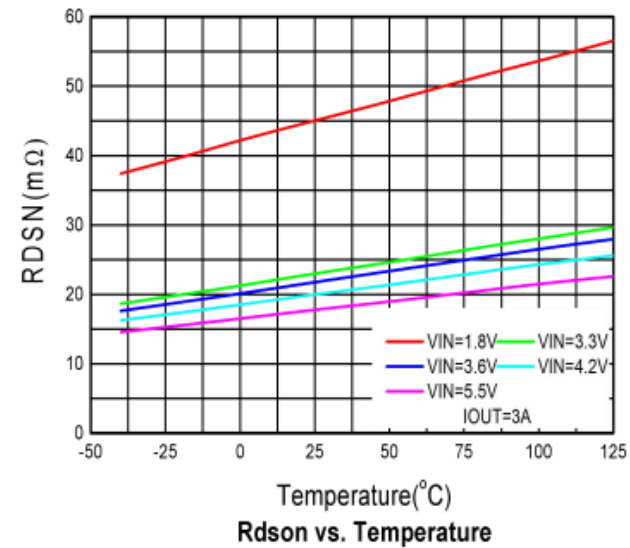
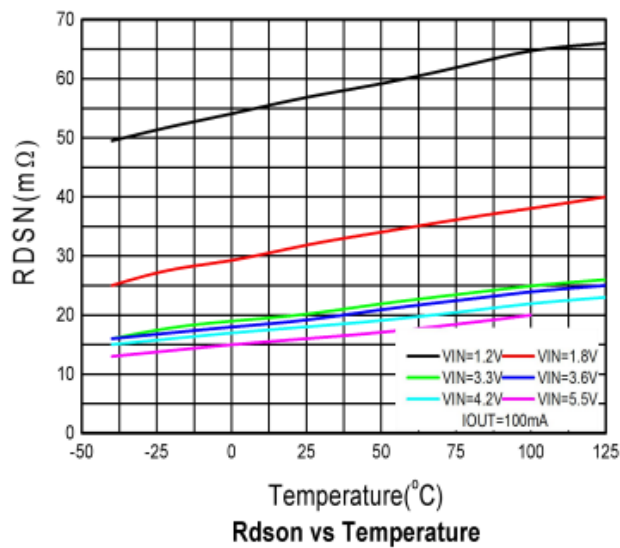
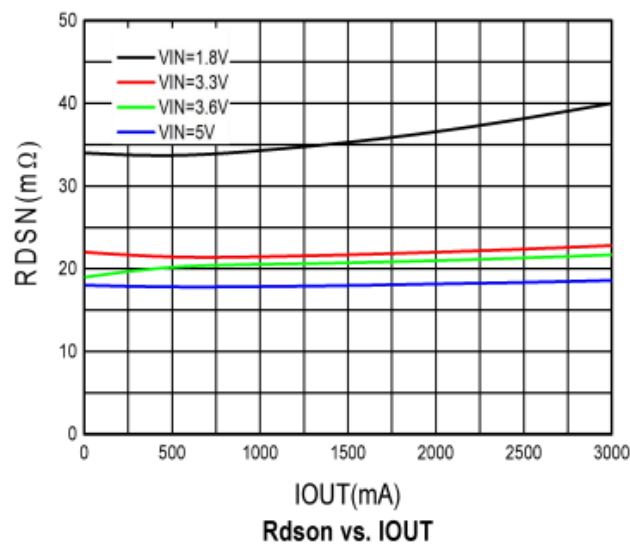
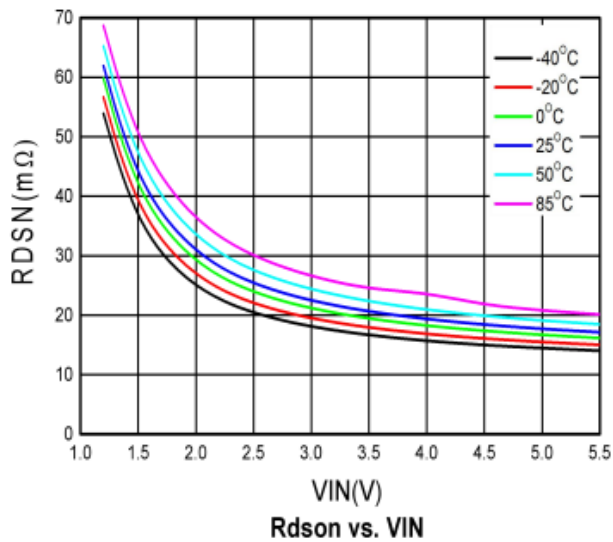
Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Input Voltage	VIN		1.		6.	V
Static drain-source on-state resistance	EDSON	VIN =5.5,10I _D =500mA	8	18	23	mΩ
		VIN =4.5,I _{OUT} =500mA	9	19	26	
		VIN =3.3,10DT =500mA	10	21	28	
		VIN =1.5,10I _{YR} =500mA	12	42	56	
		VIN =1.2,10u-r =500mA	12	62	200	
EN logic high voltage	VINH		0.9			V
EN logic low voltage	VENT				0.5	V
EN pull-down resistor	RPD			4		MΩ
Standby current	ISD	VIN =4.2, EN=Low, No load		100	200	nA
Quiescent current	I _c)	VIN =4.2,EN=High,No load		300	500	nA
Enable time	TEN	RL=5ohm		210		μs
Output rise time	TR	RL=5ohm		360		μs
ON time(TEN+TR)	TON	RL=5ohm		570		μs
Output fall time	IF	RL=5ohm		16		μs

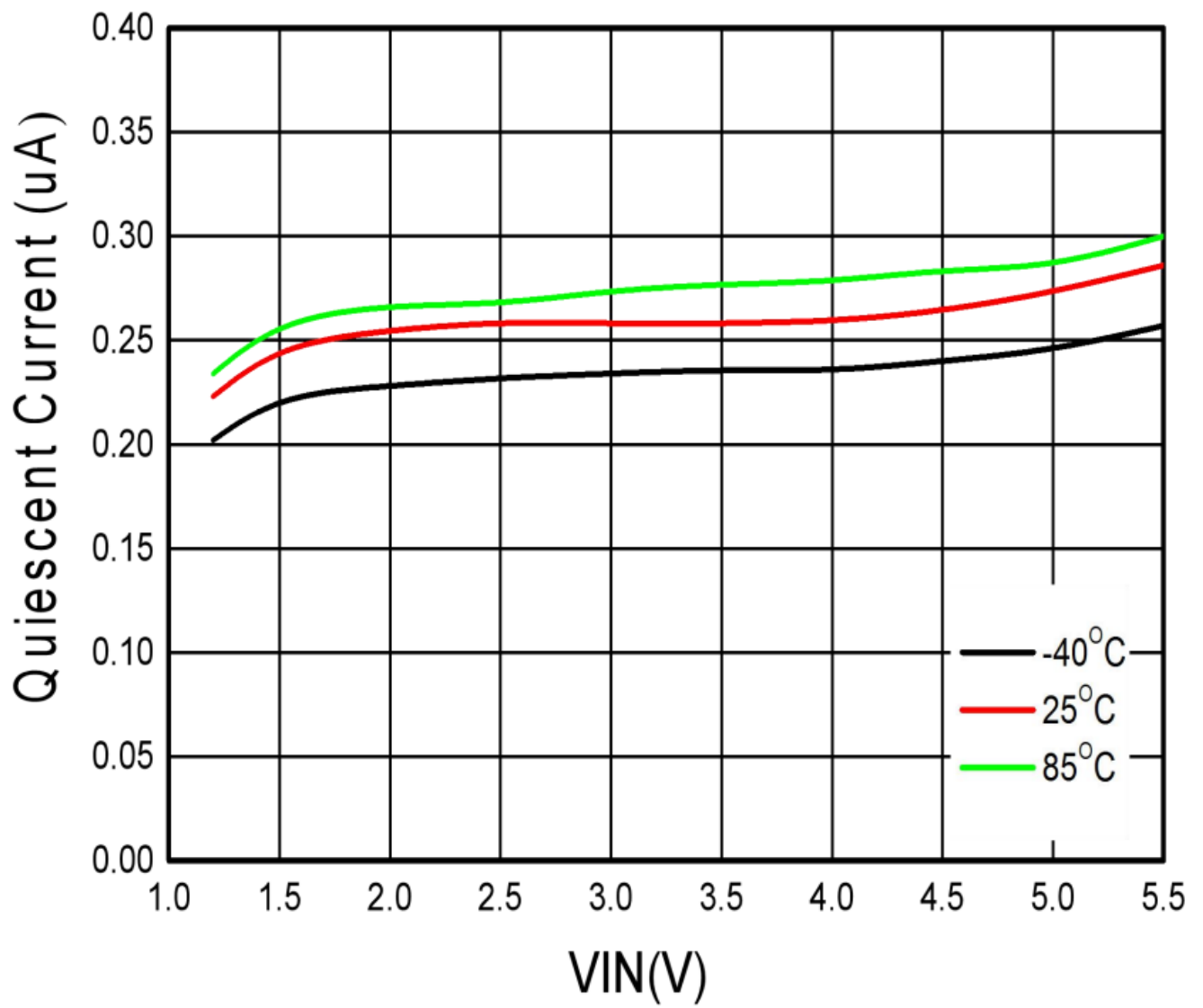
TIMINGS



Enable, rise and fall time

Typical characteristics (Ta=25oC, VIN=5V IOUT=500mA, CIN=COUT=1F, unless otherwise noted)

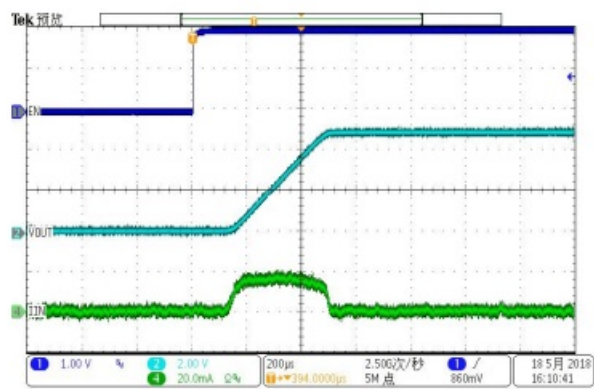




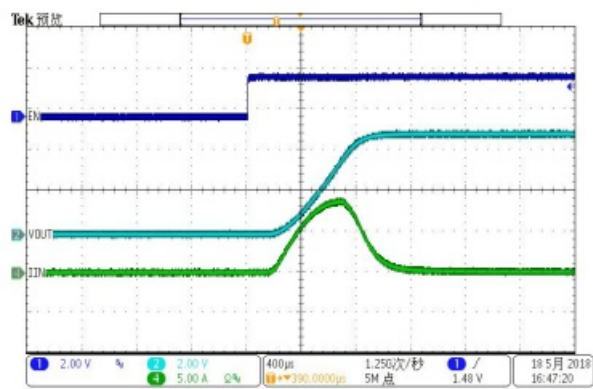
Quiescent Current vs VIN

Turn on transient

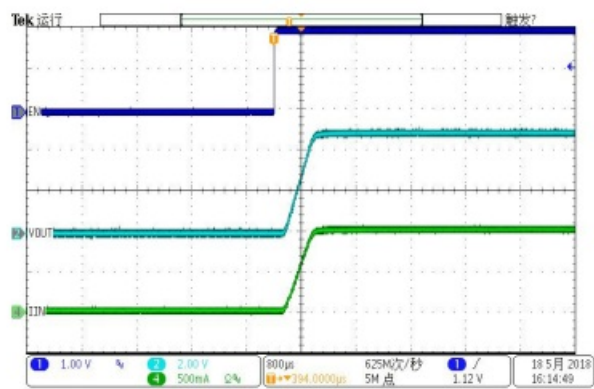
Cin=Cout=1uF, no Load



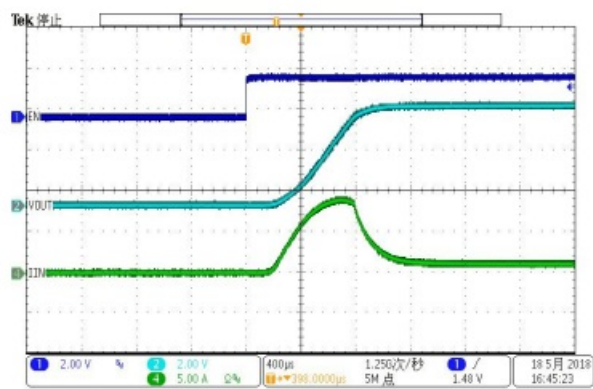
Cin=1uF,,Cout=1000uF, no Load



Cin=Cout=1uF, RL=5ohm

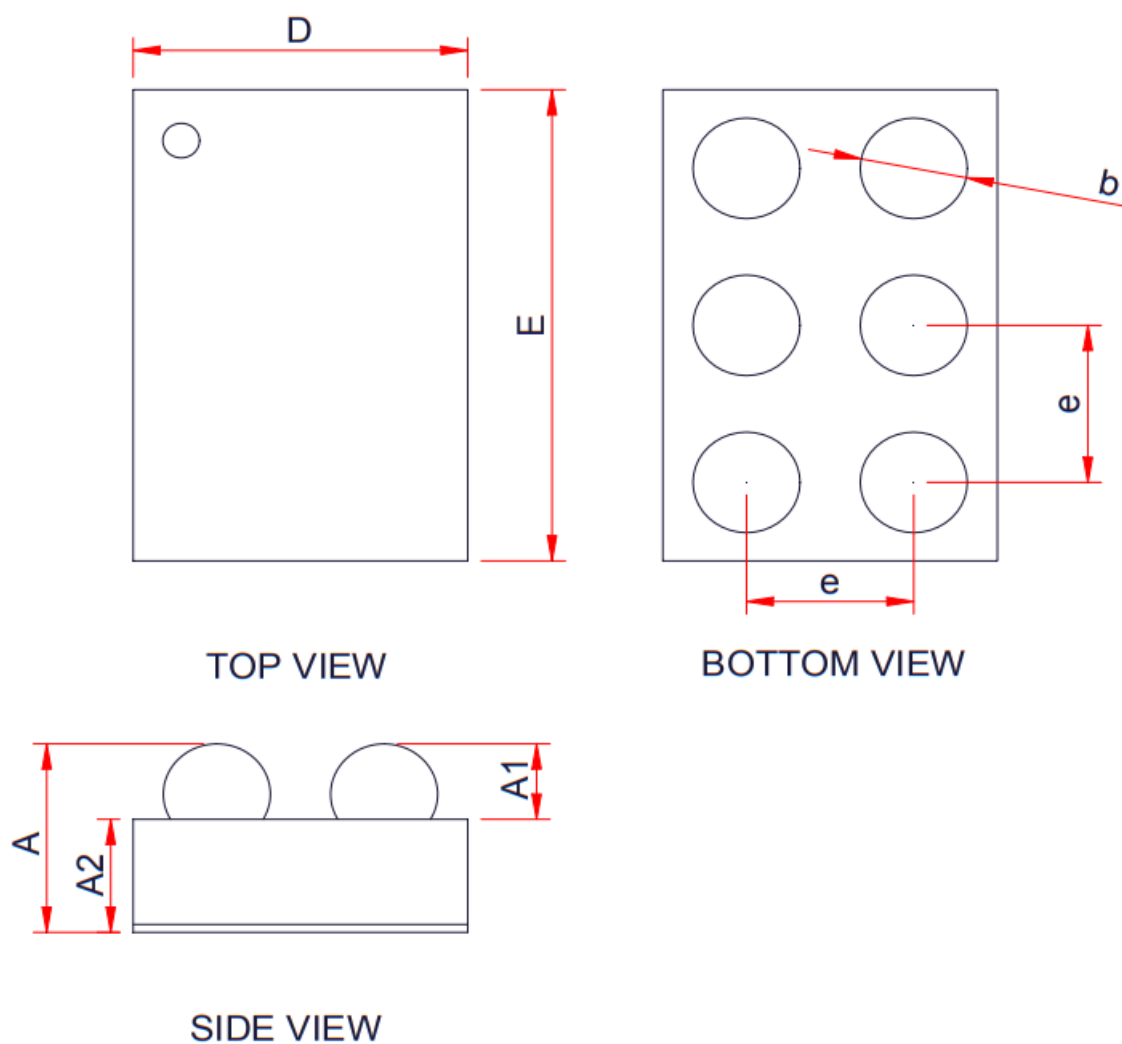


Cin=1uF,,Cout=1000uF, RL=5ohm



PACKAGE OUTLINE DIMENSIONS D

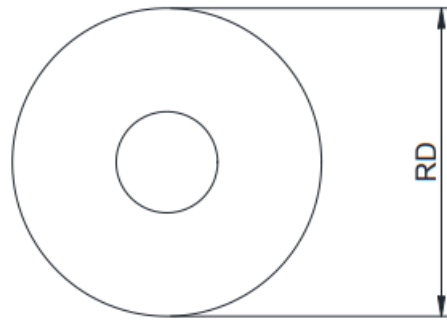
CSP-6L



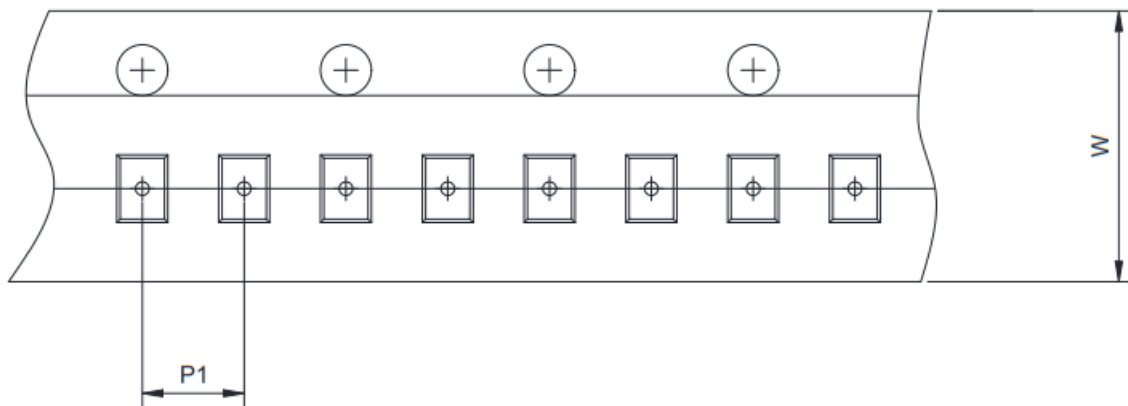
Symbol	Dimensions in Millimeters		
	Min.	Typ.	Max.
A	0.55	0.58	0.62
A1	0.22	0.24	0.26
A2	0.30	0.32	0.34
D	0.94	0.97	1.00
E	1.	t47	1.50
e	0.50BSC		
b	0.30	0.32	0.34

TAPE AND REEL INFORMATION

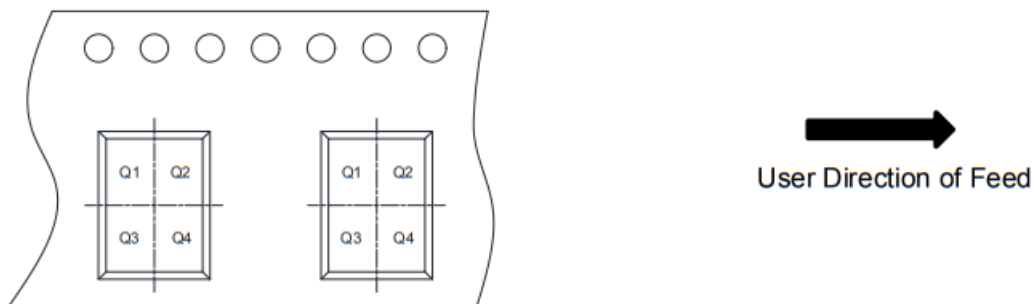
Reel Dimensions



Tape Dimensions



Quadrant Assignments For PIN1 Orientation In Tape



RD	Reel Dimension	☒ 7inch	☐ 13inch
W	Overall width of the carrier tape	☒ 8mm	☐ 12mm ☐ 16mm
P1	Pitch between successive cavity centers	☐ 2mm	☒ 4mm ☐ 8mm
Pin1	Pin1 Quadrant	☒ Q1	☐ Q2 ☐ Q3 ☐ Q4



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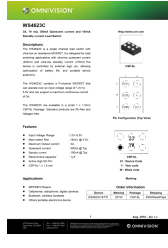
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Documents / Resources

	OMNIVISION WS4623C Image Sensor [pdf] Instructions WS4623C, Image Sensor, WS4623C Image Sensor, Sensor
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[Manuals+](#)