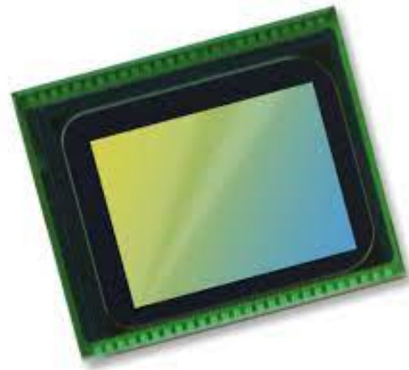




OmniVision WL2855K CubeChip Image Sensor ASIC Camera Instruction Manual

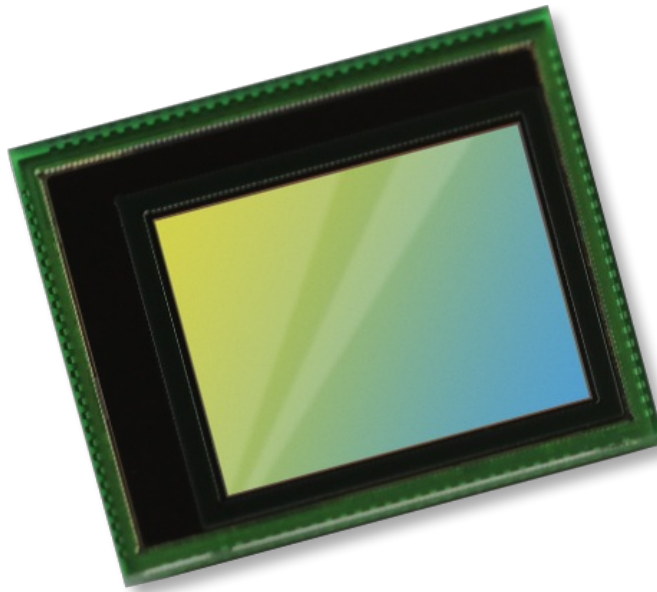
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OmniVision WL2855K CubeChip Image Sensor ASIC Camera



Descriptions

The WL2855K series are high accuracy, low noise, 12V Input, 500mA, CMOS Linear regulator with high ripple rejection. The devices offer a new level of cost effective performance in cellular phones, laptop and notebook computers, and other portable devices.

The WL2855K has the fold-back maximum output current which depends on the output voltage. So the current limit functions both as a short circuit protection and as an output current limiter.

The WL2855K regulators are available in standard SOT-89-3L Package. Standard products are PBS-free and Halogen-free.

Features

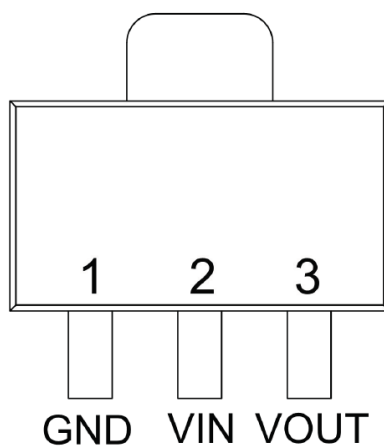
- Input Voltage Range : 2.5V~12V
- Output Voltage Range :1.2V~5V
- Output Current :500mA
- Fixed Voltage Accuracy : $\pm 1\%$ ($V_o \geq 2.5V$)
- Quiescent current :1uA
- Dropout voltage : 840mV@ $V_o=4V$ $I_o=500mA$
- Recommend capacitor : $\geq 0.1\mu F$
- Short-Circuit Protection

Applications

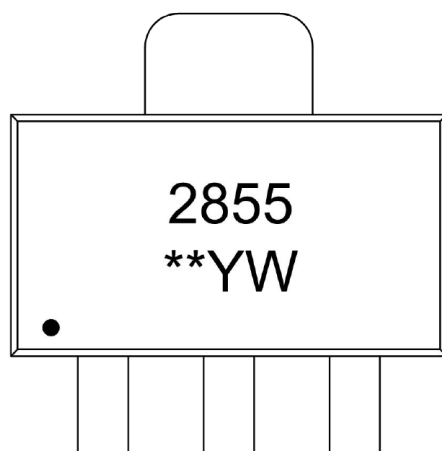
- Mobile Phone
- Cellphones, radiophone, digital cameras
- Bluetooth, wireless handsets
- Others portable electronics device



SOT-89-3L



Pin Configuration (Top View)



- 2855 : Device code
- ** : Voltage code
- Y : Year Cod
- e W : Week Code

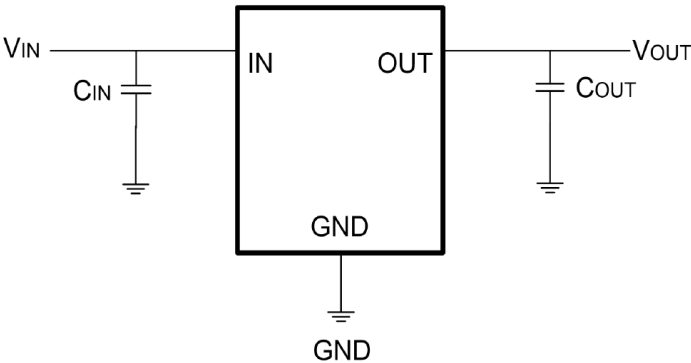
For detail marking information, please see page 12.

- Marking

Order Information

For detail order information, please see page 12.

Typical Application

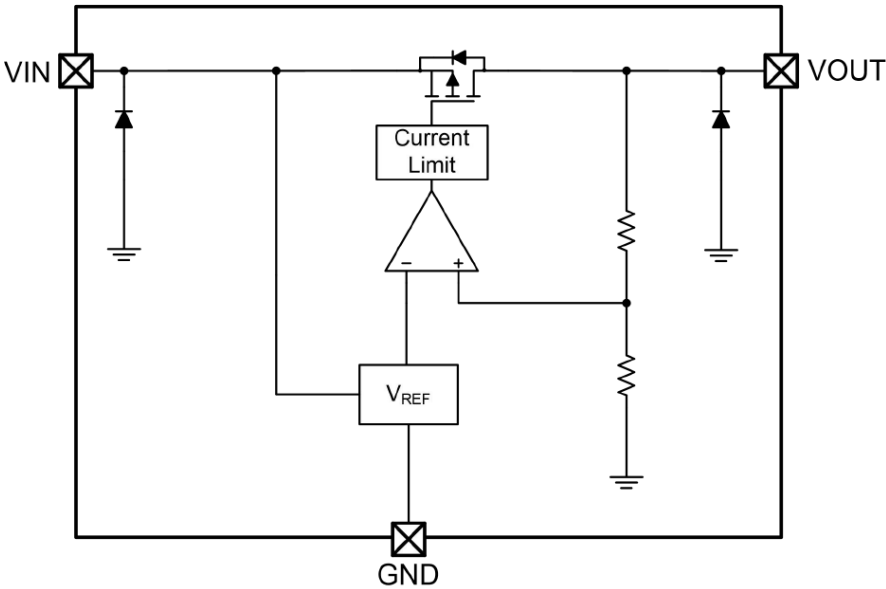


Recommend capacitor $\geq 0.1\mu F$

Pin Description SOT-89-3L

PIN	Symbol	Description
1	GND	Ground
2	VIN	Input
3	VOUT	Output

Block Diagram



Absolute Maximum Ratings

Parameter		Value	Unit
Power Dissipation, $P_D@T_A=25^{\circ}\text{C}$		1.5	W
V_{IN} Range		-0.3~13.5	V
V_{OUT} Range		-0.3~5.5	V
I_{OUT}		Internally Limited	mA
Lead Temperature Range		260	$^{\circ}\text{C}$
Storage Temperature Range		-55~150	$^{\circ}\text{C}$
Operating Junction Temperature Range		150	$^{\circ}\text{C}$
MSL		Level-3	
ESD Ratings	HBM	4000	V
	MM	200	V

Recommend Operating Ratings

Parameter	Value	Unit
Operating Supply voltage	2.5~12	V
Operating Temperature Range	-40~85	$^{\circ}\text{C}$
Thermal Resistance, $R_{\theta JA}$ (SOT-89-3L)	77	$^{\circ}\text{C/W}$

Electronics Characteristics

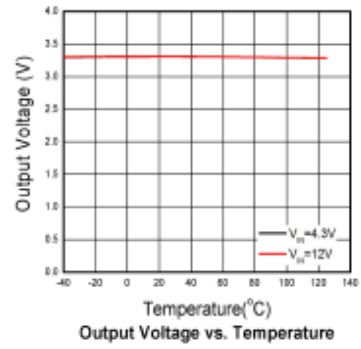
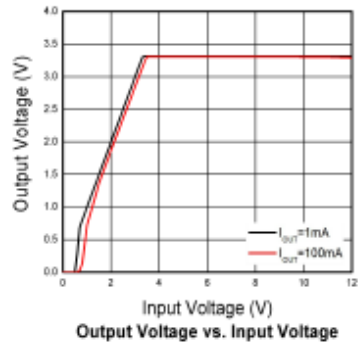
($T_A=25^{\circ}\text{C}$, $V_{IN}=V_{OUT}+1\text{V}$, $C_{IN}=C_{OUT}=1\mu\text{F}$, $I_{OUT}=1\text{mA}$ unless otherwise noted)

Parameter	Symbol	Condition		Min.	Typ.	Max.	Unit
Output Voltage	V_{OUT}	$V_{OUT} \leq 2.5V$		-25	V_{OUT}	+25	mV
		$V_{OUT} > 2.5V$		0.99* V_{out}	V_{OUT} V_{out}	1.01* V_{out}	V
Input Voltage	V_{IN}			2.5		12	V
Current Limit	I_{LIM}	$V_{IN} \geq 3.3V$		500			mA
Dropout Voltage	V_{DROP}	$V_{OUT} = 3.3V, I_{OUT} = 500mA$			940	1200	mV
		$V_{OUT} = 4V, I_{OUT} = 500mA$			840	1100	mV
Line Regulation	ΔV_{LINE}	$V_{IN} = V_{OUT} + 1 \sim 12V$			1	5	mV
Load Regulation	ΔV_{Load}	$I_{OUT} = 1 \sim 500mA$			30	50	mV
Quiescent Current	I_Q	$V_{IN} = 4V, I_{OUT} = 0$			1	2.2	μA
Short Current	I_{SHORT}	V_{OUT} short to GND			180		mA
Power Supply Rejection Rate	PSRR	$V_O = 3.3V, I_O = 10mA$	$f = 100Hz$		70		dB
			$f = 1kHz$		50		dB
			$f = 10kHz$		25		dB
Output Noise Voltage	e_{NO}	$V_O = 3.3V, I_O = 30mA$			54		$\mu VRMS$

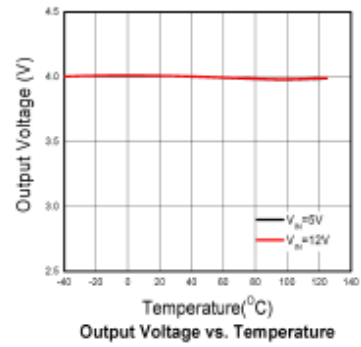
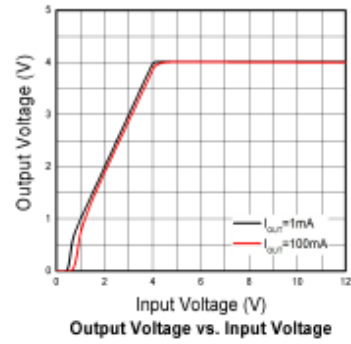
Typical characteristics

($T_a = 25^\circ C$, $V_{IN} = V_{OUT} + 1V$, $I_{OUT} = 1mA$, $C_{IN} = C_{OUT} = 1\mu F$, unless otherwise noted) $V_{OUT} = 3.3V$

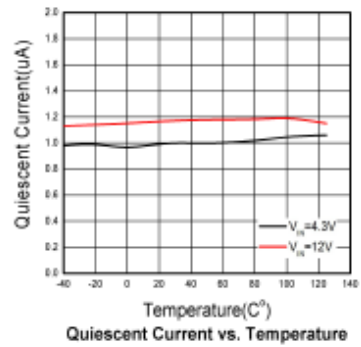
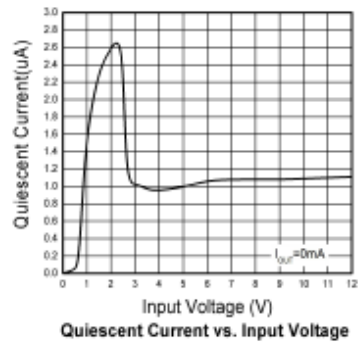
V_{out}=3.3V



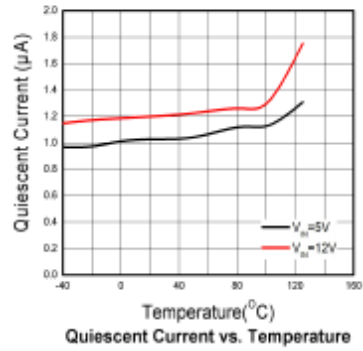
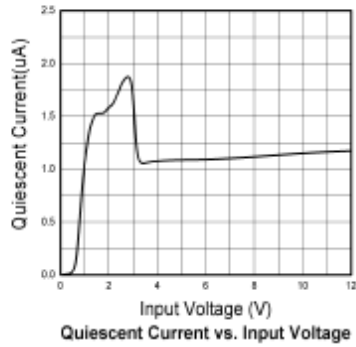
V_{out}=4.0V



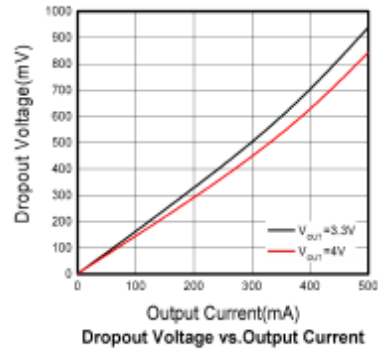
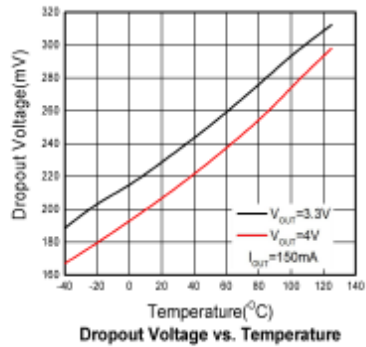
V_{out}=3.3V



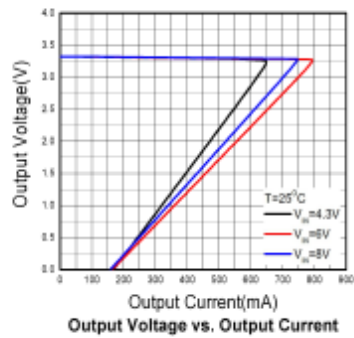
V_{OUT}=4.0V



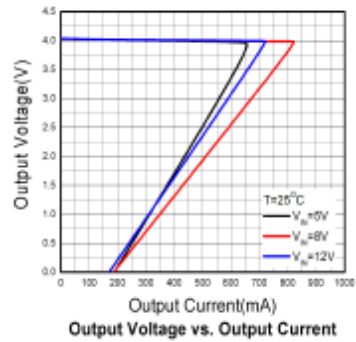
V_{DROPOUT}



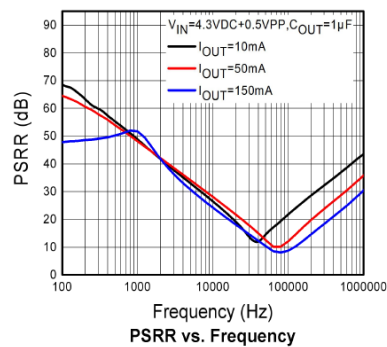
V_{OUT}=3.3V



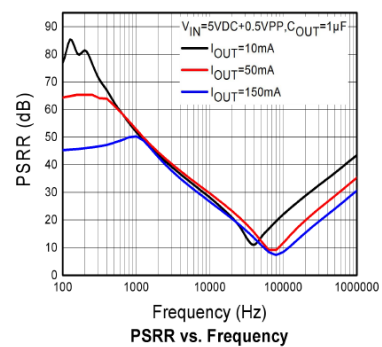
V_{OUT}=4.0V



V_{OUT}=3.3V



V_{OUT}=4.0V

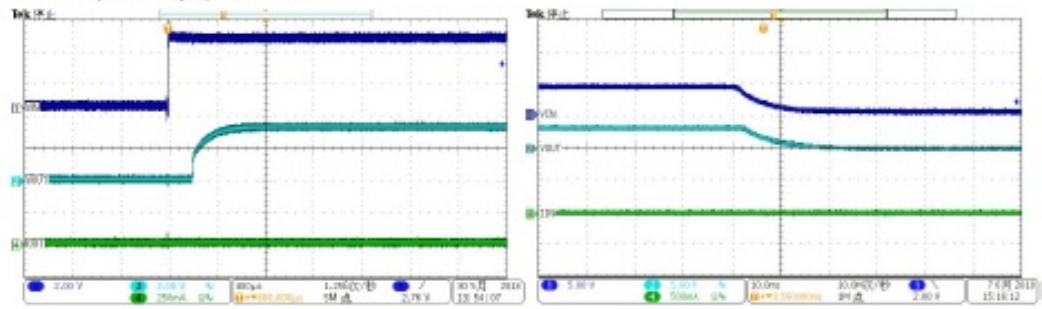


1. Start up & Shut down

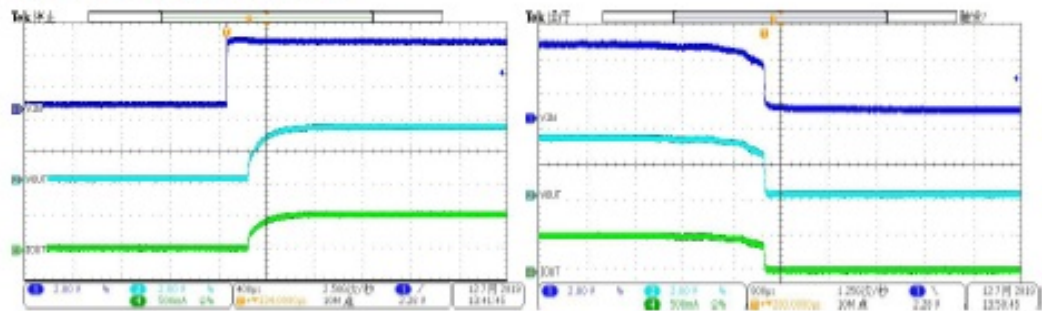
V_{OUT}=3.3V

V_{IN}=4.3V, C_{OUT}=1μF, I_{OUT}=1mA

$V_{IN}=4.3V, C_{OUT}=1\mu F, I_{OUT}=1mA$

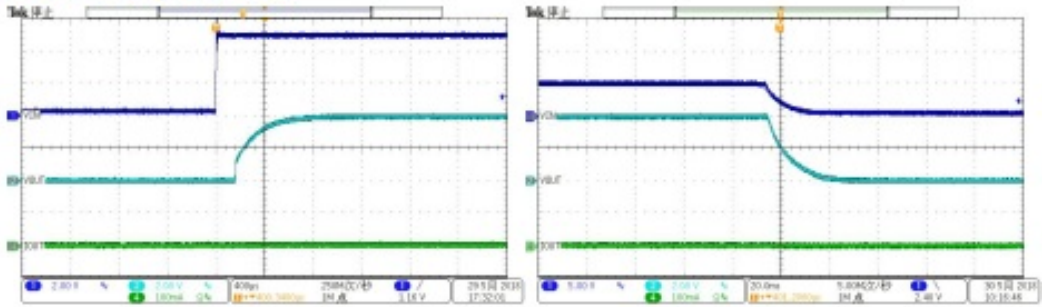


$V_{IN}=4.3V, C_{OUT}=1\mu F, I_{OUT}=500mA$

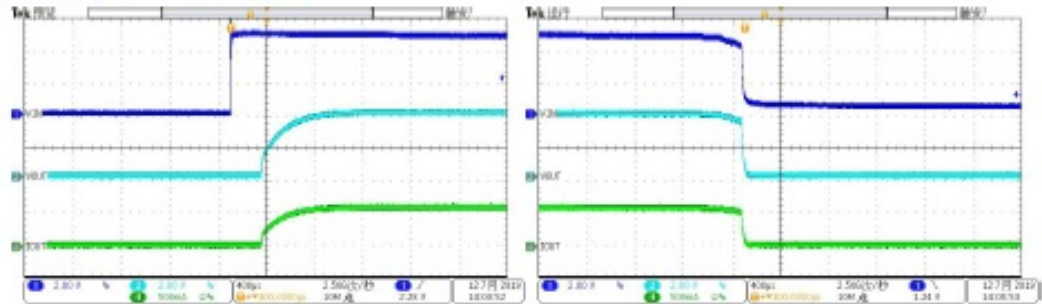


$V_{OUT}=4V$

$V_{IN}=5V, C_{OUT}=1\mu F, I_{OUT}=1mA$

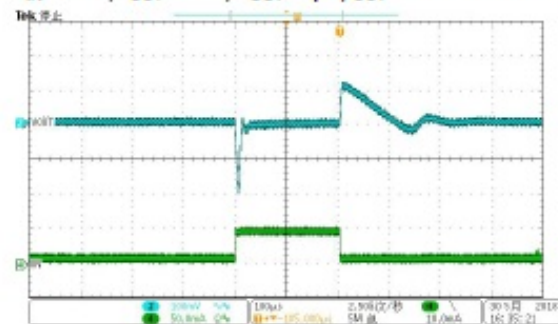


$V_{IN}=5V, C_{OUT}=1\mu F, I_{OUT}=500mA$

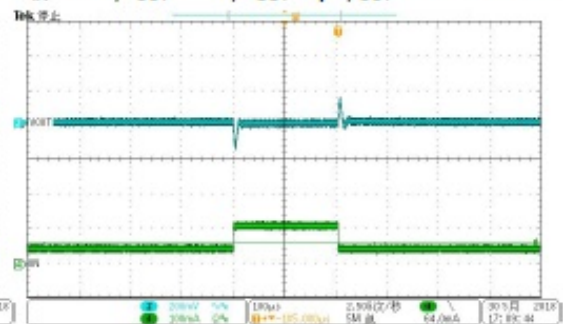


2. Load & Line Transient

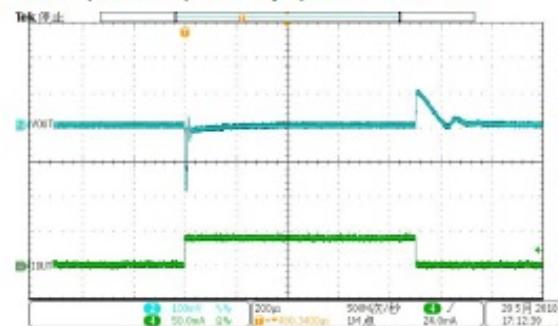
$V_{IN}=4.3V, V_{OUT}=3.3V, C_{OUT}=1\mu F, I_{OUT}=1mA-40mA$



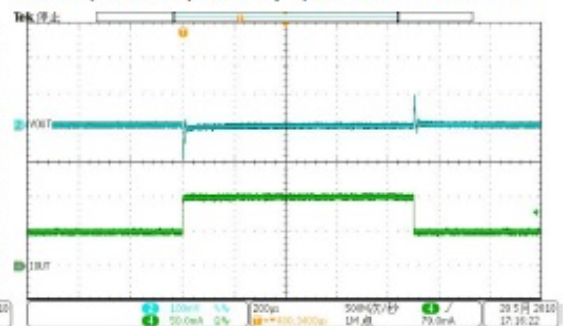
$V_{IN}=4.3V, V_{OUT}=3.3V, C_{OUT}=1\mu F, I_{OUT}=50mA-100mA$



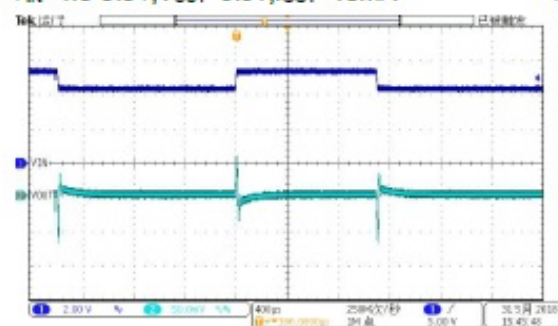
$V_{IN}=5V, V_{OUT}=4V, C_{OUT}=1\mu F, I_{OUT}=1mA-40mA$



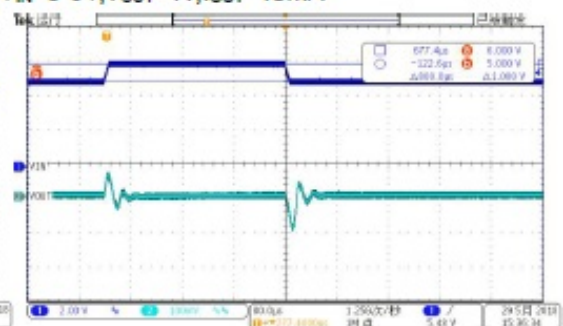
$V_{IN}=5V, V_{OUT}=4V, C_{OUT}=1\mu F, I_{OUT}=50mA-100mA$



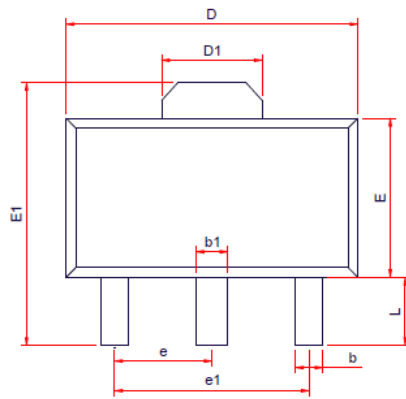
$V_{IN}=4.3-5.3V, V_{OUT}=3.3V, I_{OUT}=10mA$



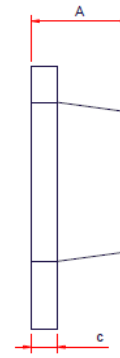
$V_{IN}=5-6V, V_{OUT}=4V, I_{OUT}=10mA$



PACKAGE OUTLINE DIMENSIONS

SOT-89-3L

TOP VIEW



SIDE VIEW

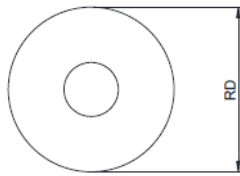


SIDE VIEW

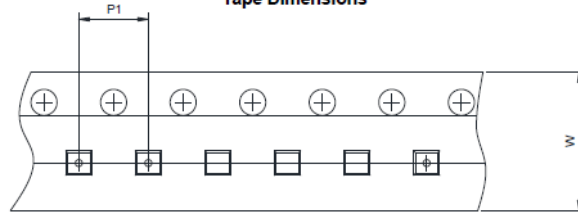
Symbol	Dimensions in Millimeters		
	Min.	Typ.	Max.
A	1.40	1.50	1.60
b	0.32	0.42	0.52
b1	0.40	0.49	0.58
c	0.30	0.40	0.50
D	4.40	4.50	4.60
D1	1.60 Ref		
E	2.30	2.45	2.60
E1	3.75	4.00	4.25
e	1.50 BSC		
e1	3.00 BSC		
L	1.05 Ref		

TAPE AND REEL INFORMATION

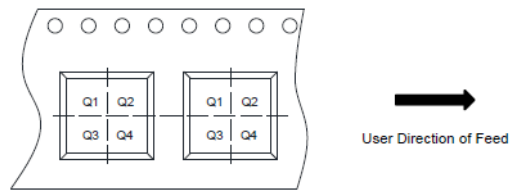
Reel Dimensions



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

Ordering No.	Vout (V)	Package	Operating Temperature	Marking	Shipping
WL2855K18-3/TR	1.8	SOT-89-3L	-40~85°C	BJYW	Tape and Reel, 1000
WL2855K28-3/TR	2.8	SOT-89-3L	-40~85°C	CJYW	Tape and Reel, 1000

WL2855K30-3/TR	3.0	SOT-89-3L	-40~85°C	DAYW	Tape and Reel, 1000
WL2855K33-3/TR	3.3	SOT-89-3L	-40~85°C	DDYW	Tape and Reel, 1000
WL2855K37-3/TR	3.7	SOT-89-3L	-40~85°C	DHYW	Tape and Reel, 1000
WL2855K38-3/TR	3.8	SOT-89-3L	-40~85°C	DJYW	Tape and Reel, 1000
WL2855K40-3/TR	4.0	SOT-89-3L	-40~85°C	EAYW	Tape and Reel, 1000
WL2855K50-3/TR	5.0	SOT-89-3L	-40~85°C	FAYW	Tape and Reel, 1000

Documents / Resources

	OmniVision WL2855K CubeChip Image Sensor ASIC Camera [pdf] Instruction Manual WL2855K CubeChip Image Sensor ASIC Camera, WL2855K, CubeChip Image Sensor ASIC Camera, Image Sensor ASIC Camera, Sensor ASIC Camera, ASIC Camera, Camera
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