

### Description

The LM73A series is a set of three-terminal low power high voltage regulators implemented in CMOS technology. They allow input voltages as high as 20V. They are available with several fixed output voltages ranging from 2.1V to 9.0V. Because of the low power dissipation, LM73A Series are widely used in a variety of equipment such as audio device, video device, communication device and so on.

### Features

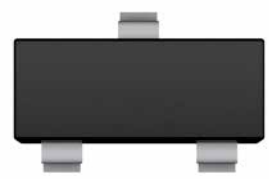
- Low power consumption
- Low voltage drop
- Low temperature coefficient
- High input voltage (up to 20V)
- Quiescent current : 1.5 $\mu$ A
- Output voltage tolerance:  $\pm$ 2%

### Applications

- Battery-Powered Equipment
- Ultra Low Power Microcontrollers
- Notebook Computers

**SOT-23**

3.VIN

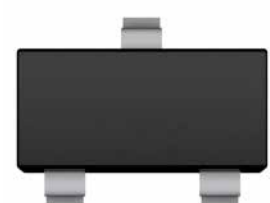


1.GND

2.VOUT

**SOT-23-3**

3.VIN



1.GND

2.VOUT

**SOT-89**

2.VIN



1.GND

2.VIN

3.VOUT

**SOT-23-5**

5.VOUT

4.NC



1.VIN

2.GND

3.NC

## Functional Pin Description

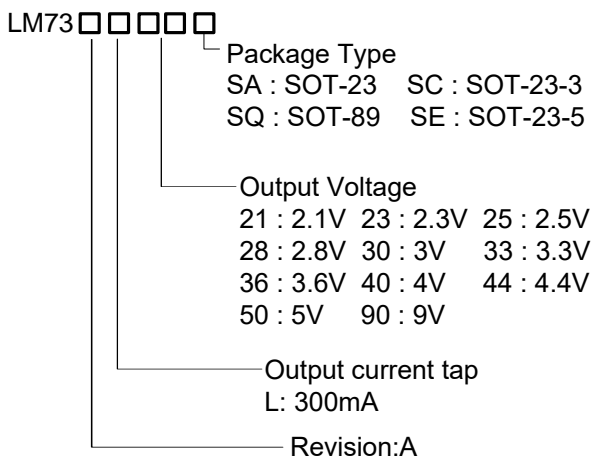
Pin Name	Pin Function
NC	NO Connected
GND	Ground
VOUT	Output Voltage
VIN	Power Input Voltage

## Marking Code <sup>Note</sup>

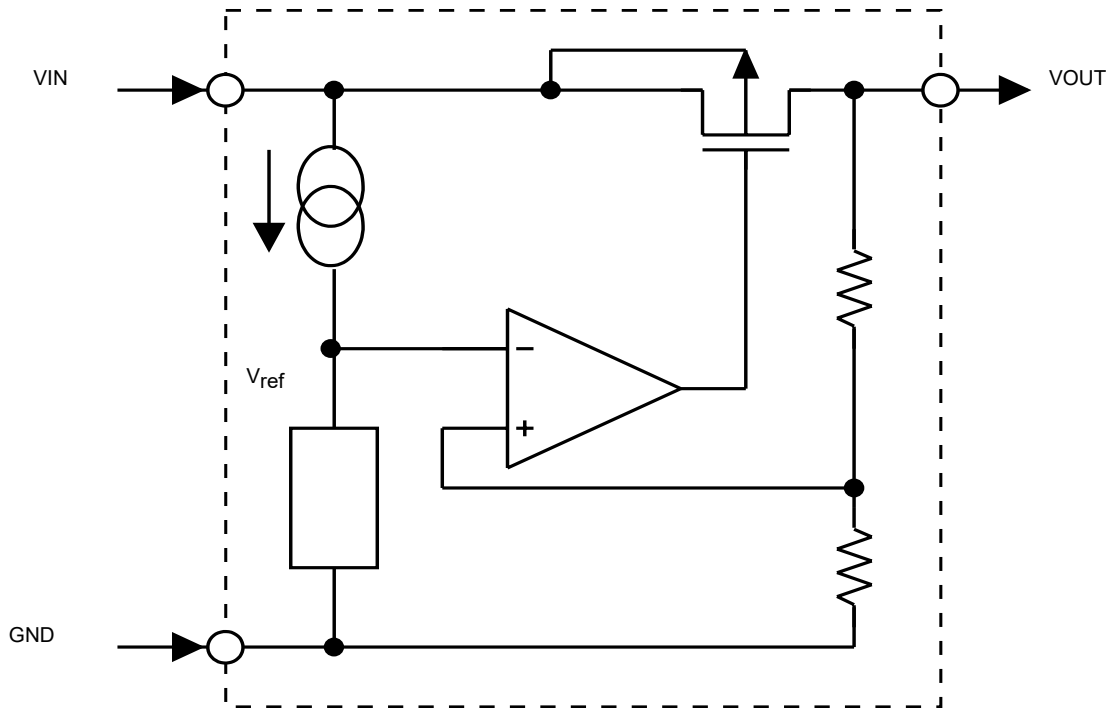
Output Voltage	Package	Marking Code
2.1V~9V	SOT-23	73XX
2.1V~9V	SOT-23-3	73XXC
2.1V~9V	SOT-23-5	73XXE
2.1V~9V	SOT-89	73XX

**Note** . XX : Output Voltage  
e.g . 30:3.0V 33:3.3V

## Ordering Information



## Function Block Diagram



## Absolute Maximum Ratings

Ratings at 25°C ambient temperature unless otherwise specified.

Parameter		Value	Unit
Supply Voltage		-0.3 ~ +22	V
Power Dissipation	SOT-23	180	mW
	SOT-23-3	200	mW
	SOT-23-5	200	mW
	SOT-89	500	mW
Thermal Resistance, Junction-to-Ambient	SOT-23	550	°C/W
	SOT-23-3	500	°C/W
	SOT-23-5	500	°C/W
	SOT-89	200	°C/W
Operating Ambient Temperature		-40 ~ +85	°C
Storage temperature range		-50 ~ +125	°C

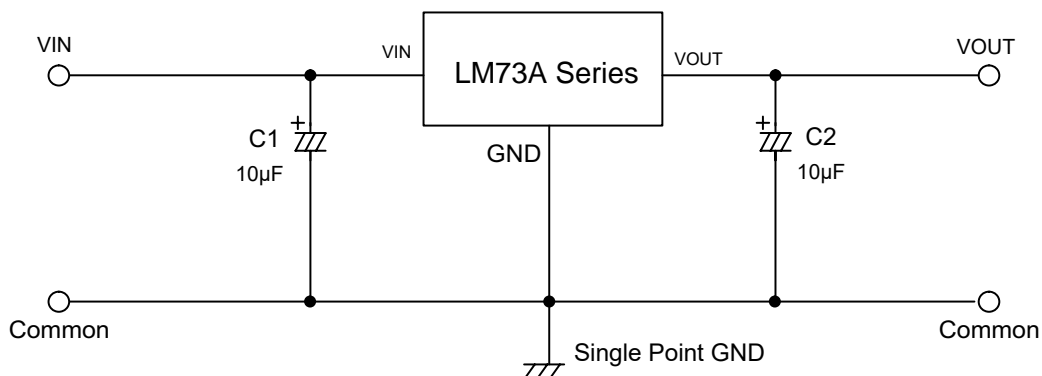
## Electrical Characteristics

( $V_{IN}=V_{OUT}+2$ ,  $C_{IN}=10\mu F$ ,  $C_{OUT}=10\mu F$ ,  $T_A=25^\circ C$ , unless otherwise noted.)

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Input Voltage	$V_{IN}$		--	--	20	V
Output Voltage Accuracy	$\Delta V_{OUT}$	$I_{OUT}=10mA$	-2	--	+2	%
Output Current	$I_{OUT}$		300	--	--	mA
Quiescent Current	$I_Q$	$I_{OUT}=0mA$	--	1.5	3	$\mu A$
Dropout Voltage <sup>Note1</sup>	$V_{DROP}$	$2.1V \leq V_{OUT} < 2.3V$ , $I_{OUT}=10mA$	--	45	55	mV
		$2.3V \leq V_{OUT} < 2.5V$ , $I_{OUT}=10mA$	--	40	55	
		$2.5V \leq V_{OUT} < 2.8V$ , $I_{OUT}=10mA$	--	35	55	
		$2.8V \leq V_{OUT} < 3.0V$ , $I_{OUT}=10mA$	--	30	55	
Dropout Voltage <sup>Note1</sup>	$V_{DROP}$	$3.0V \leq V_{OUT} < 3.3V$ , $I_{OUT}=100mA$	--	210	300	mV
		$3.3V \leq V_{OUT} < 3.6V$ , $I_{OUT}=100mA$	--	195	300	
		$3.6V \leq V_{OUT} < 4.0V$ , $I_{OUT}=100mA$	--	180	300	
		$4.0V \leq V_{OUT} < 4.4V$ , $I_{OUT}=100mA$	--	170	300	
		$4.4V \leq V_{OUT} < 5.0V$ , $I_{OUT}=100mA$	--	160	300	
		$9.0V \leq V_{OUT}$ , $I_{OUT}=100mA$	--	130	300	
Line Regulation	$\Delta V_{LINE}$	$V_{IN}=V_{OUT}+2$ to 20V, $I_{OUT}=1mA$	--	--	0.2	%/V
Load Regulation	$\Delta V_{LOAD}$	$1mA < I_{OUT} < 300mA$	--	37	100	mV
Short circuit current	$I_{SHORT}$	$V_{OUT}=0V$	--	250	--	mA
Current Limit	$I_{Limit}$	$V_{IN}=V_{OUT}+2V$ , $I_{OUT}=1mA$	--	530	--	mA
Power Supply Rejection Rate	PSRR	$I_{OUT}=100mA$	--	54	--	dB
Thermal Shutdown Temperature	$\frac{\Delta V_{OUT}}{V_{OUT}} \times \Delta T_A$	$V_{IN}=V_{OUT}+2V$ , $I_{OUT}=10mA$ $-40^\circ C \leq T_A \leq 85^\circ C$	--	100	--	$^\circ C$

**Note 1.** The dropout voltage is defined as  $V_{IN} - V_{OUT}$ , when  $V_{OUT}$  is 98% of the normal value of  $V_{OUT}$ .

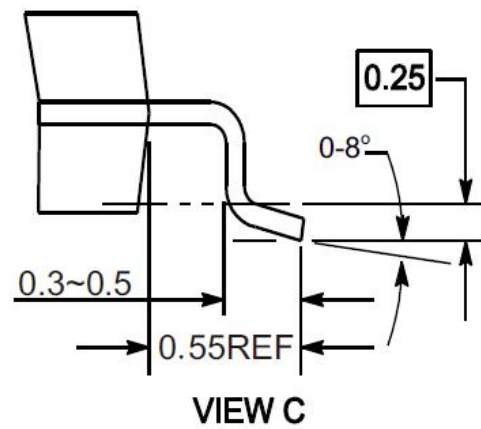
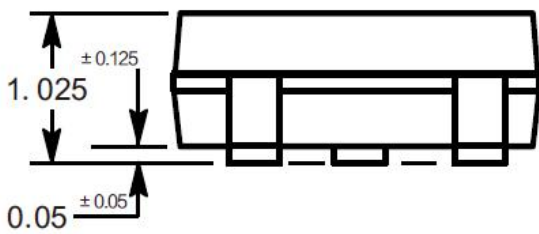
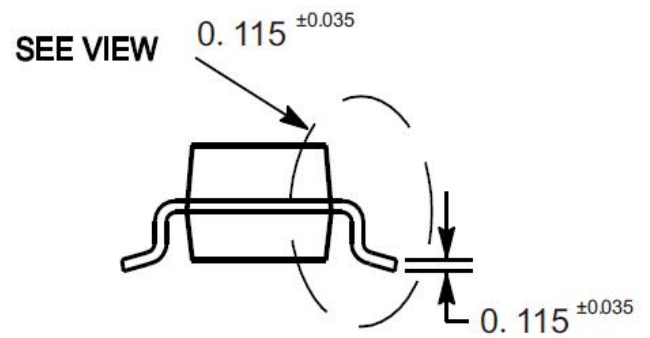
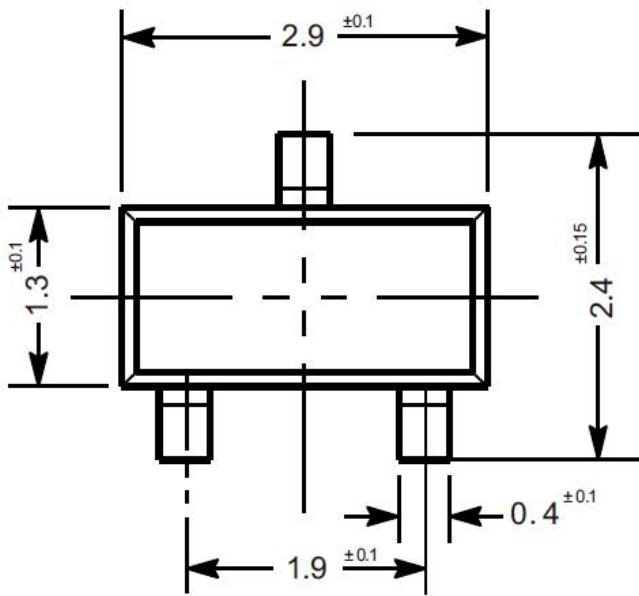
## Typical Application Circuit



## Package Outline

SOT-23

Dimensions in mm



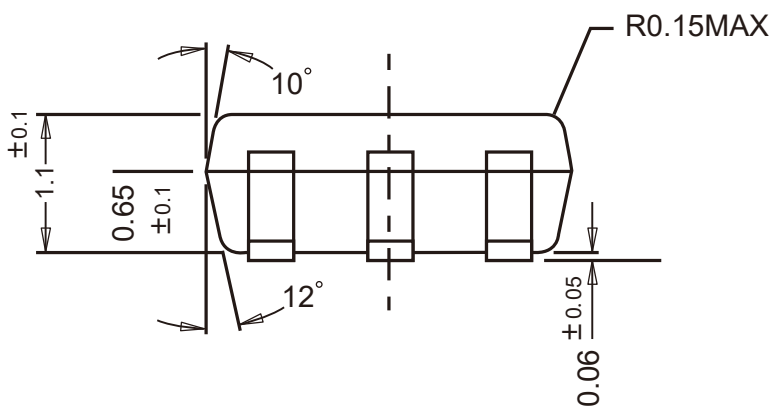
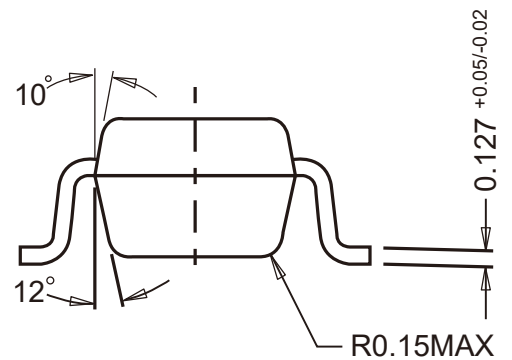
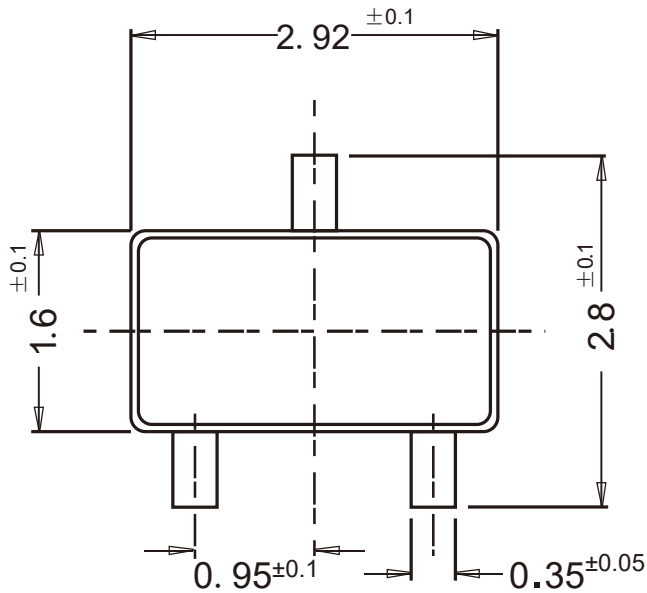
## Ordering Information

Device	Package	Shipping
LM73A Series	SOT-23	3,000PCS/Reel&7inches

## Package Outline

SOT-23-3

Dimensions in mm



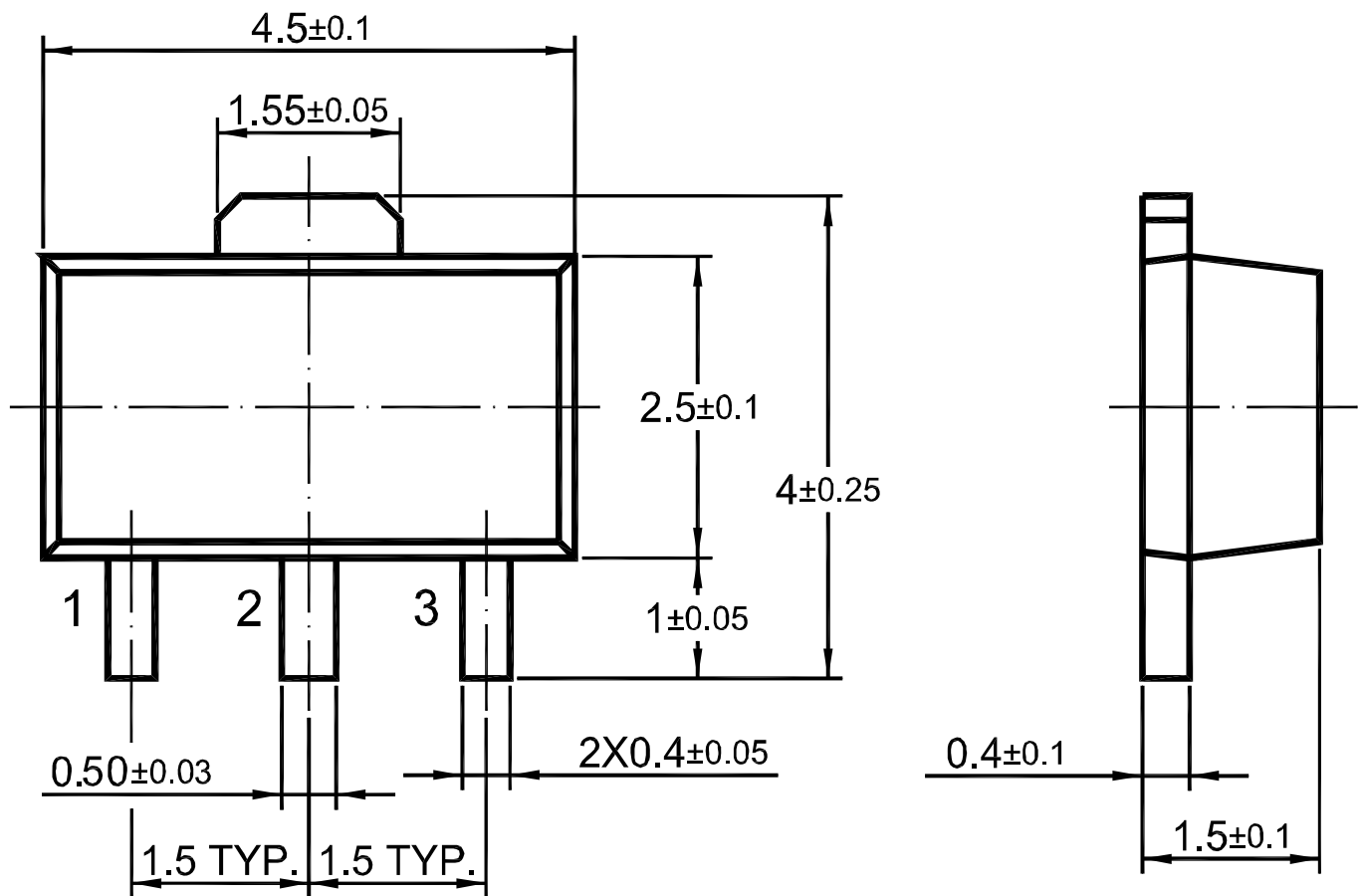
## Ordering Information

Device	Package	Shipping
LM73A Series	SOT-23-3	3,000PCS/Reel&7inches

## Package Outline

SOT-89

Dimensions in mm



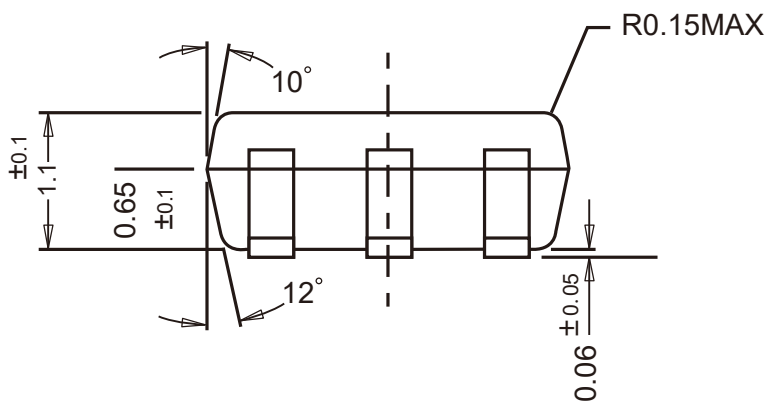
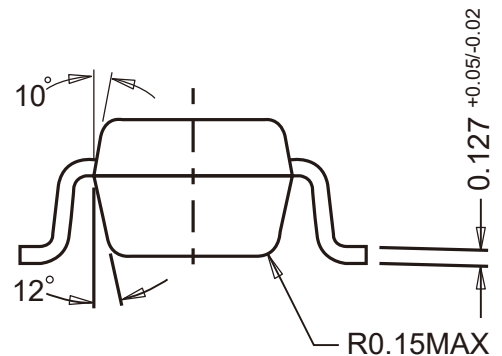
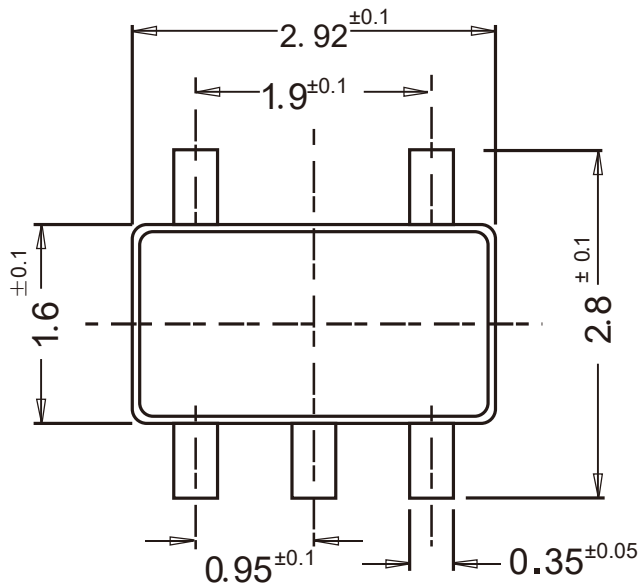
## Ordering Information

Device	Package	Shipping
LM73A Series	SOT-89	1,000PCS/Reel&7inches
		3,000PCS/Reel&13inches

## Package Outline

SOT-23-5

Dimensions in mm



## Ordering Information

Device	Package	Shipping
LM73A Series	SOT-23-5	3,000PCS/Reel&7inches

### NOTICE

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