

## ■ Description

MST52LXXB series are manufactured by CMOS technology, with the highest input voltage of 24V. The series is a high voltage linear regulator with multiple fixed output voltages. MST52LXXB series has 3 packaging forms and 9 pin arrangement modes, making it more convenient for customers to make PCB board layout .

## ■ Product purpose

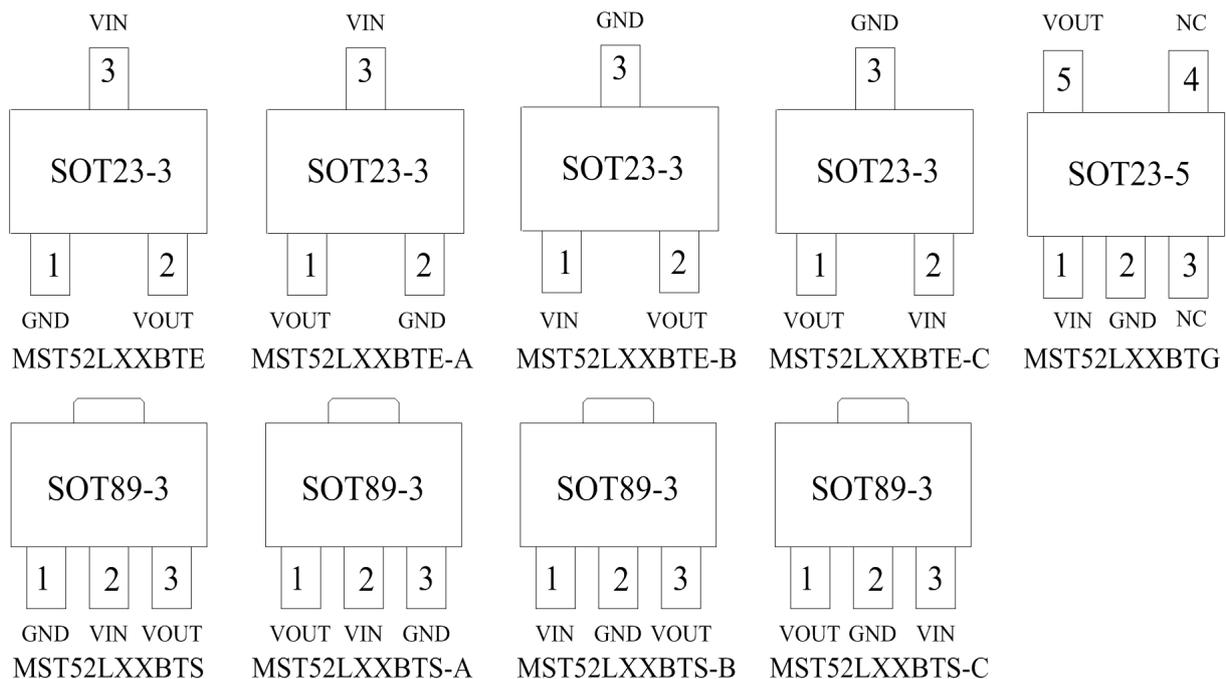
- A power supply device for batteries, etc
- Communication device
- Audio/video device
- Security monitoring equipment

## ■ Functional characteristics

- High input voltage: 24V
- Multiple pin arrangements: 9
- High precision output voltage:  $\pm 2\%$
- Preset Output Voltage : 1.8V , 2.5V , 2.8V , 3.0V , 3.3V , 3.6V , 4.0V , 4.2V , 5.0V

MST52LXXBTE MST52LXXBTE-A MST52LXXBTE-B MST52LXXBTE-C	SOT23-3
MST52LXXBTS MST52LXXBTS-A MST52LXXBTS-B MST52LXXBTS-C	SOT89-3
MST52LXXBTG	SOT23-5

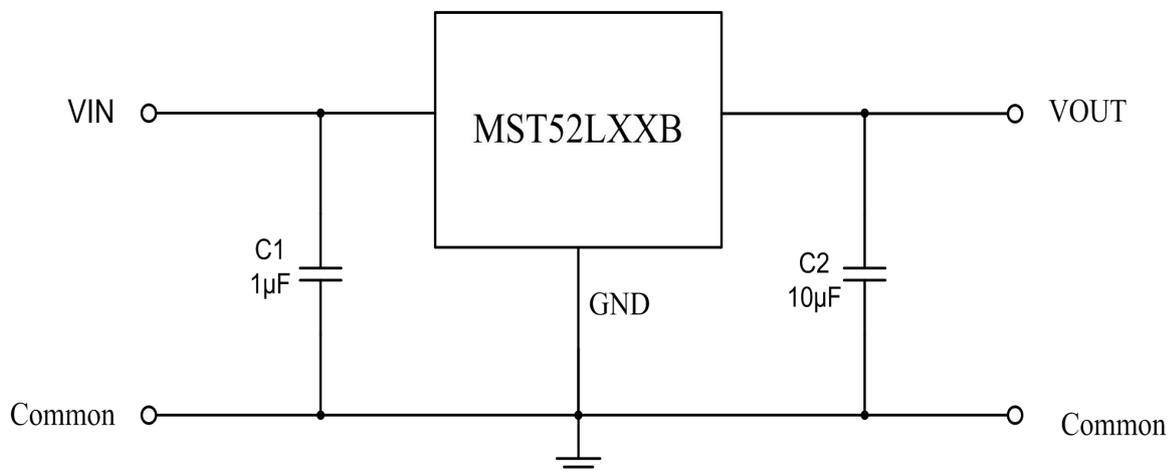
## ■ Encapsulation with pin definition



## ■ Pin Description

SOT23-3				SOT23-5	The name of the pin	Pin Description
MST52LXXBTE	MST52LXXBTE-A	MST52LXXBTE-B	MST52LXXBTE-C	MST52LXXBTG		
1	2	3	3	2	GND	System ground
2	1	2	1	5	VOUT	Output pin
3	3	1	2	1	VIN	Input pin
				3,4	NC	Empty pin
SOT89-3				The name of the pin	Pin Description	
MST52LXXBTS	MST52LXXBTS-A	MST52LXXBTS-B	MST52LXXBTS-C			
1	3	2	2	GND	System ground	
3	1	3	1	VOUT	Output pin	
2	2	1	3	VIN	Input pin	

## ■ Application circuit



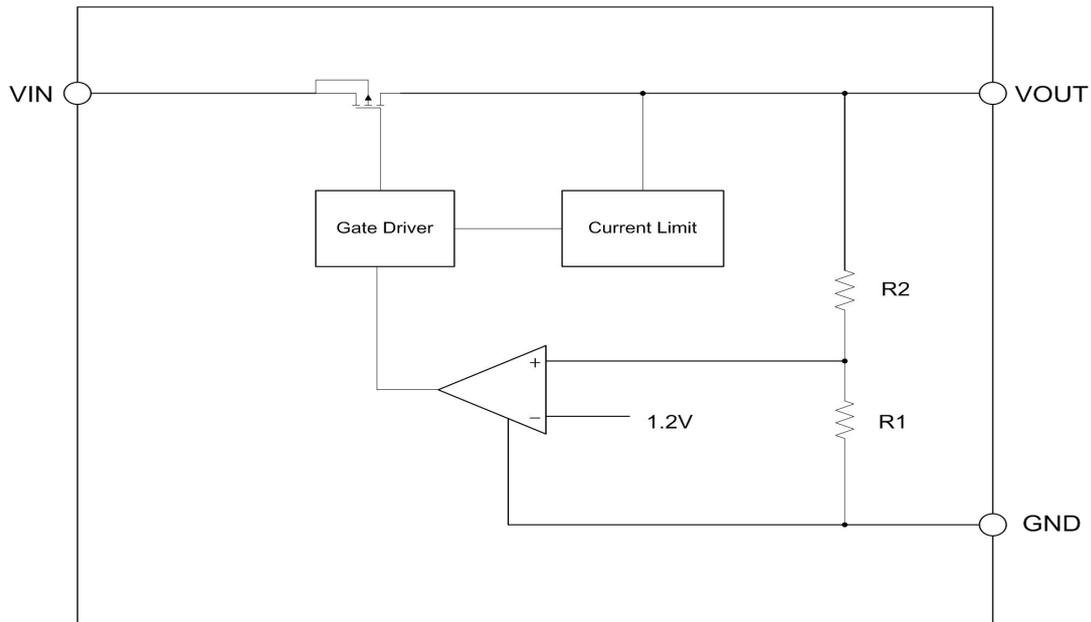
## ■ Absolute Maximum Ratings

Project	Symbol	Description	Limit Value	Unit
Voltage	VIN ~ GND	Input voltage	30	V
	VOU ~ GND	Output voltage	12	V
Electricity	I	Electricity	Within limits	mA
Temperature	Tw	Working Temperature	-20~70	°C
	Tc	Storage temperature	-50~125	°C
	Th	Welding temperature	260	°C
ESD	HBM	Human Body Model	4	kV
	MM	Mechanical Mode	100	V

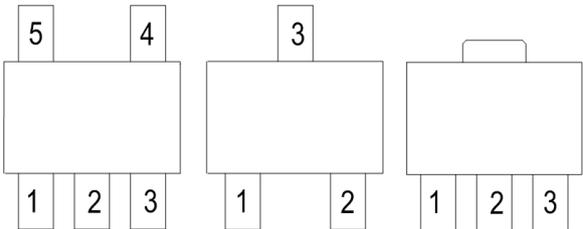
## ■ Electrical Characteristics ( MST52LXXB Series T<sub>A</sub>=25°C )

Symbol	Parameter	Test Condition	Min	Typ	Max	Unit
V <sub>IN</sub>	Input voltage	no-load loss	3	—	24	V
I <sub>GND</sub>	Quiescent current	V <sub>IN</sub> =12V, no-load loss	—	—	3	μA
V <sub>OUT</sub>	Output Voltage	V <sub>IN</sub> =12V, I <sub>OUT</sub> =10mA	V <sub>OUTNOM</sub> * 0.98	V <sub>OUTNOM</sub>	V <sub>OUTNOM</sub> * 1.02	V
I <sub>OUT_MAX</sub>	Output current	Maximum Output Current	—	150	—	mA
Dropout Voltage	Dropout voltage (MST52L50B)	150mA	—	700	900	mV
		100mA	—	500	600	
	Dropout voltage (MST52L33B)	150mA	—	800	990	mV
		100mA	—	500	700	
	Dropout voltage (MST52L30B)	150mA	—	800	990	mV
		100mA	—	500	700	
ΔV <sub>OUT</sub>	Load Regulation	At V <sub>IN</sub> = 10V, the output current goes from 1mA to 150mA	—	45	80	mV
ΔV <sub>OUT</sub> x100/ ΔV <sub>IN</sub> x V <sub>OUT</sub>	Line Regulation	When the output is 10mA, the input voltage is V <sub>OUT</sub> +2V to 24V	—	0.15	—	%/V
I <sub>SHORT</sub>	short-circuit current	Output short circuit current to ground	—	100	—	mA

## ■ Functional Diagram

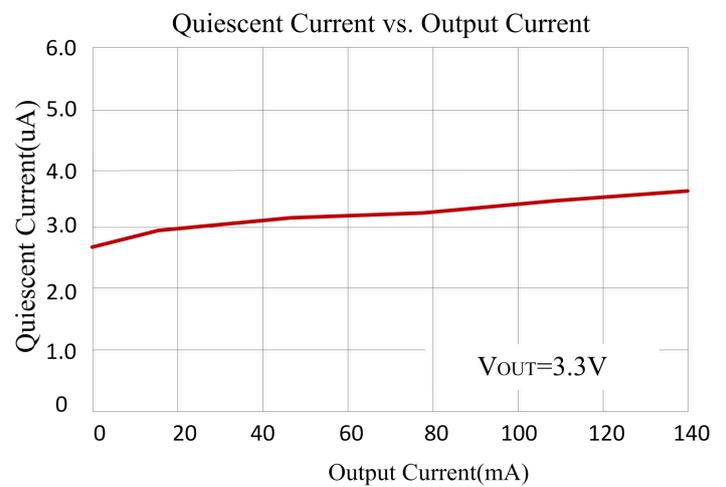
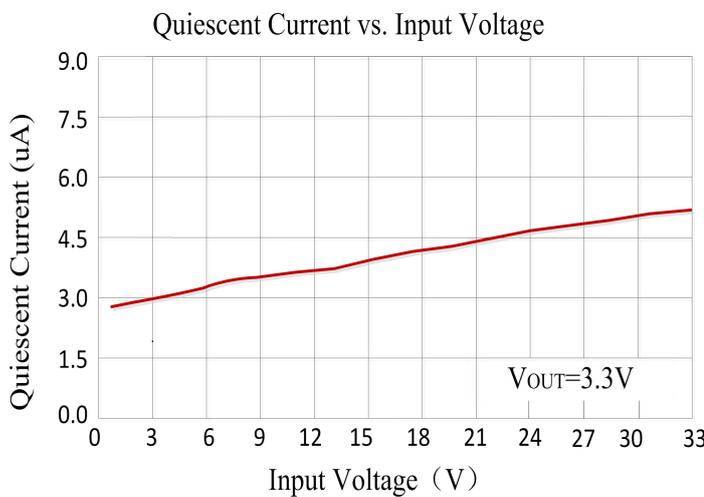
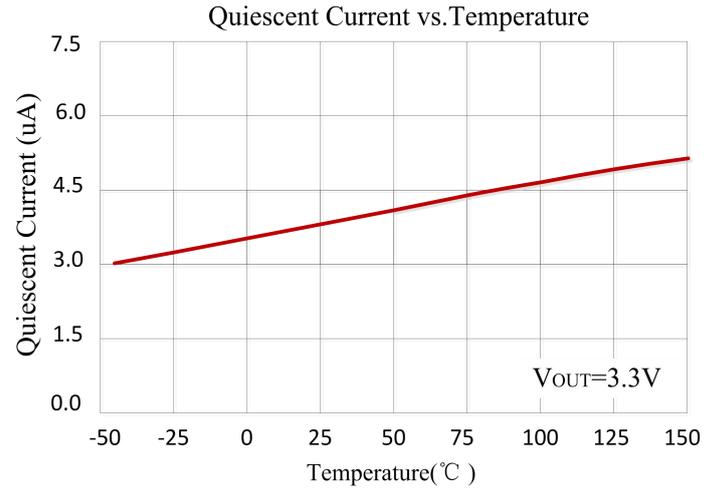
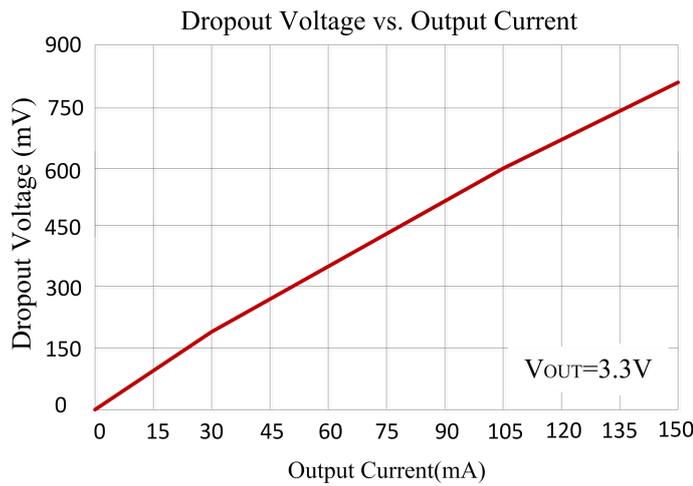
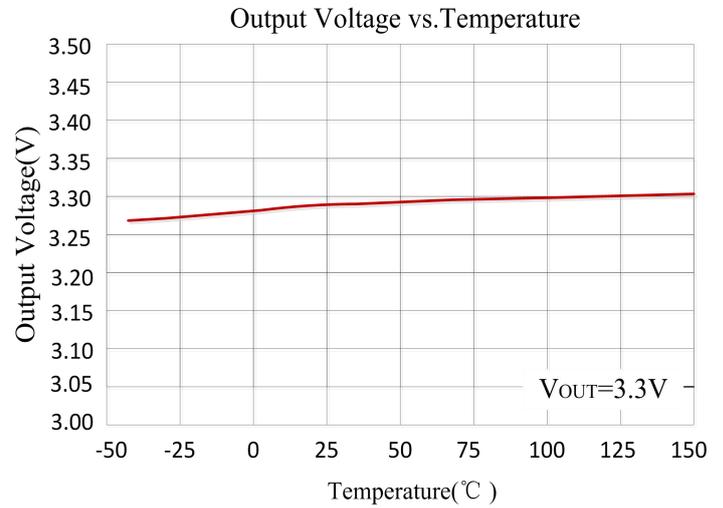
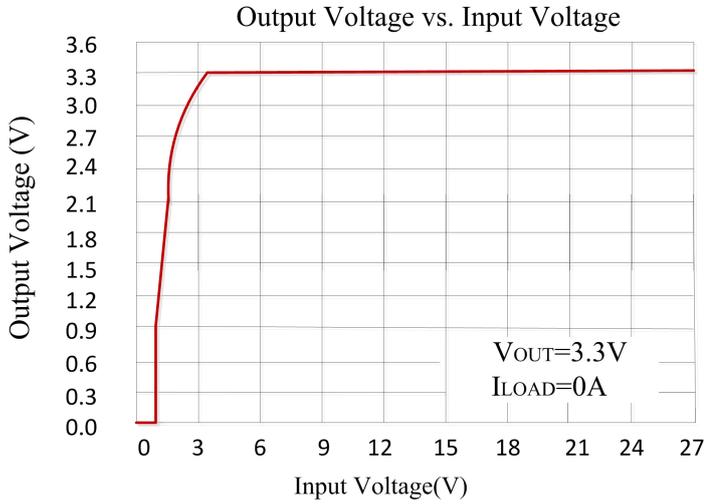


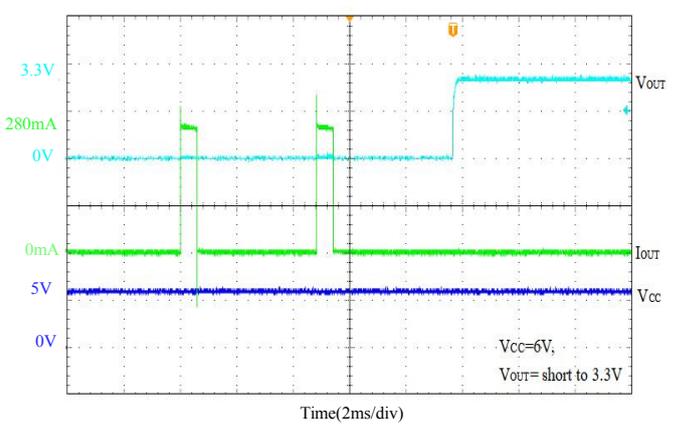
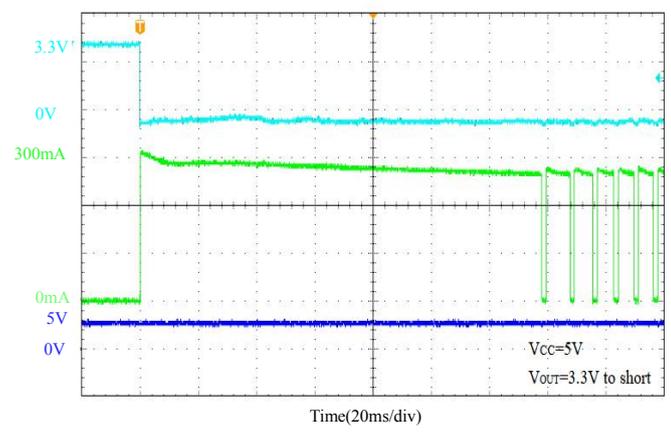
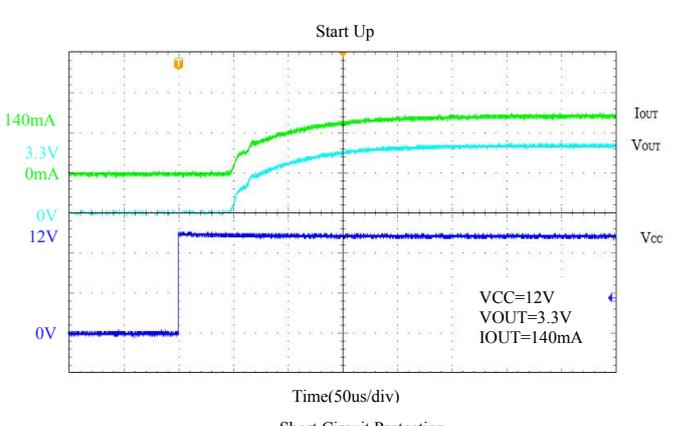
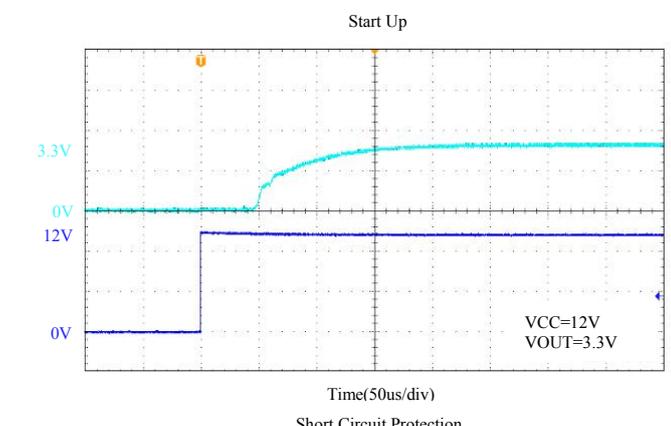
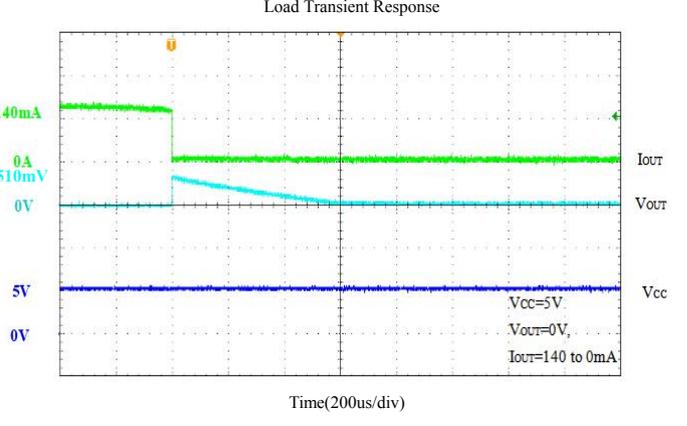
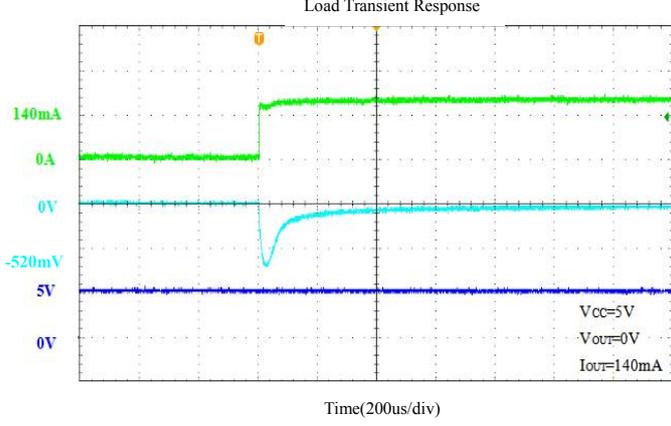
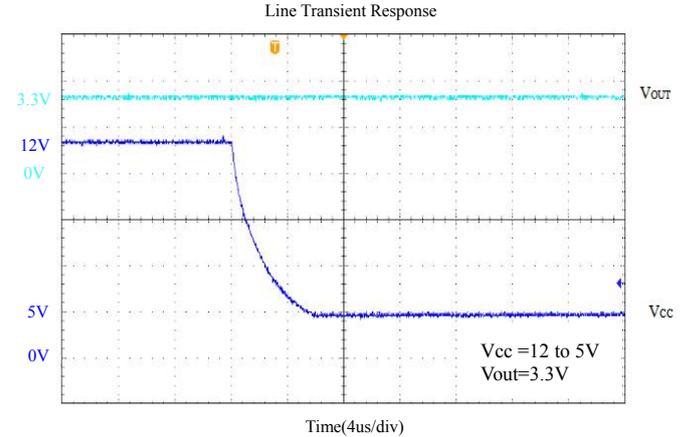
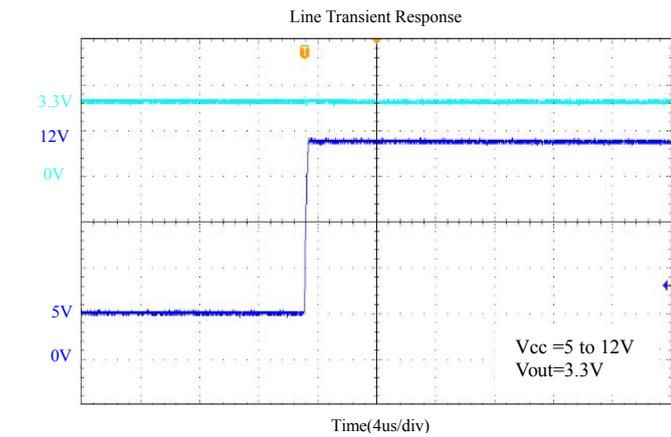
## ■ Marking information

Part Number	Package Outline			
<p><b>MST52LXXBTE-A</b></p> <ul style="list-style-type: none"> <li>— Pin definition</li> <li>— Package definition</li> <li>— Voltage accuracy</li> <li>— Product Name</li> <li>— Company Name</li> </ul>	<b>Minimum Package</b>	SOT23-5 3000pcs/Reel	SOT23-3 3000pcs/Reel	SOT89-3 1000pcs/Reel
	<b>Marking</b>	<p><b>M52L33BA</b></p> <p>1918R</p> <ul style="list-style-type: none"> <li>— A: Pin definition</li> <li>— B: B(±2%) A(±1%) C(±3%)</li> <li>— 52LXX: 52L18(1.8V) 52L33(3.3V) 52L30(3.0V) 52L50(5.0V)等</li> <li>— R: Internal Code. Variable.</li> <li>— 1918: 19-2019; 18-the 18th week of this year</li> <li>— M: M(SOT89-3) blank(SOT23)</li> </ul>		

## ■ Typical Performance Characteristics

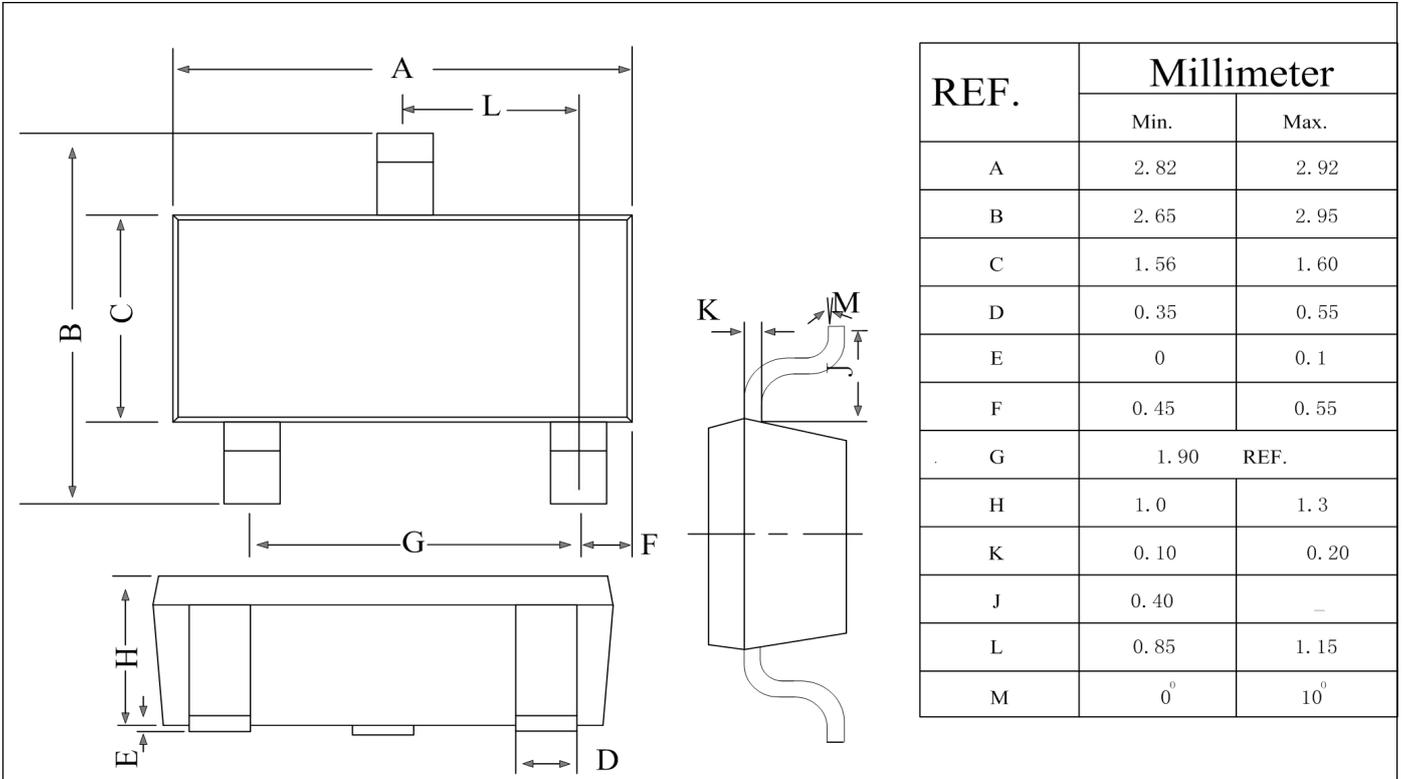
Test Condition:  $T_A=25^{\circ}\text{C}$ ,  $V_{in}=12\text{V}$ ,  $I_{out}=1\text{mA}$ ,  $C_{OUT}=10\mu\text{F}$ , unless otherwise note



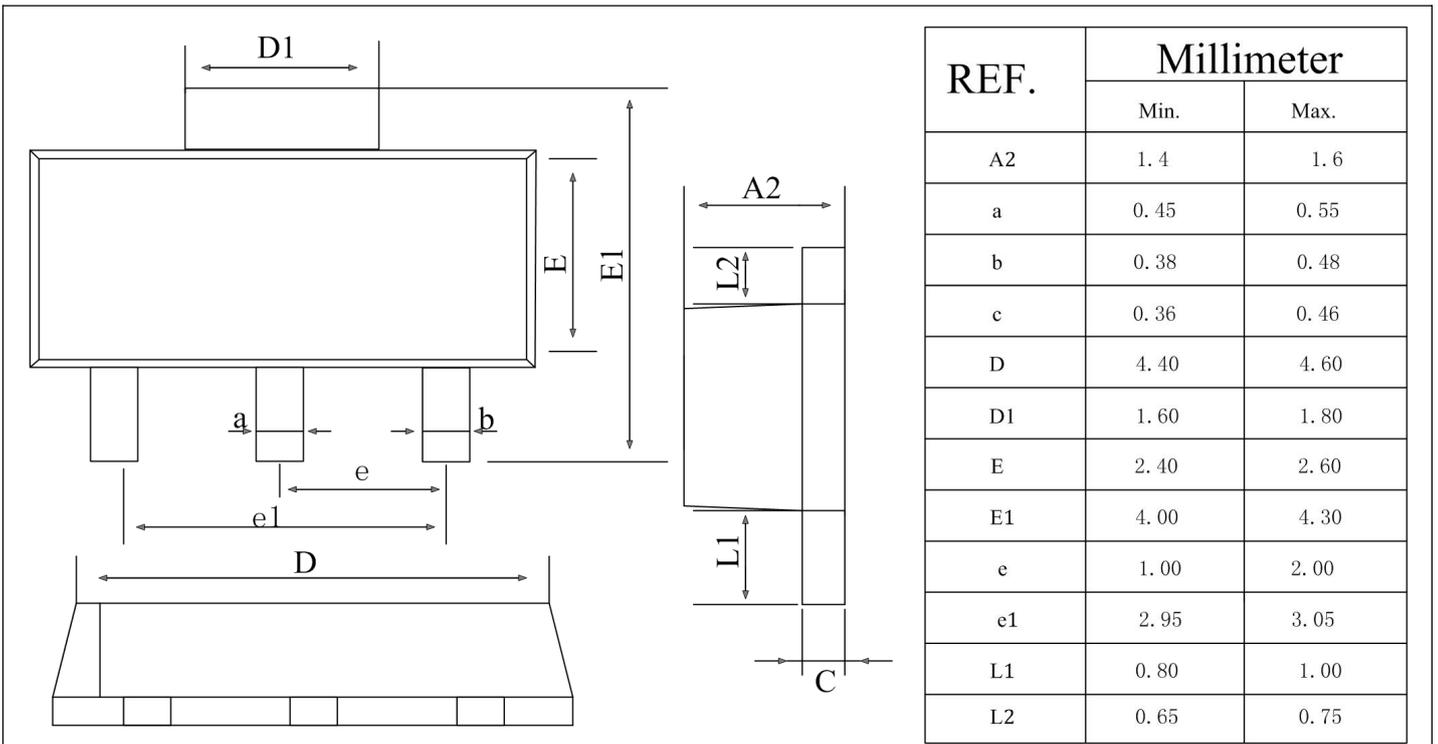


■ Package Information

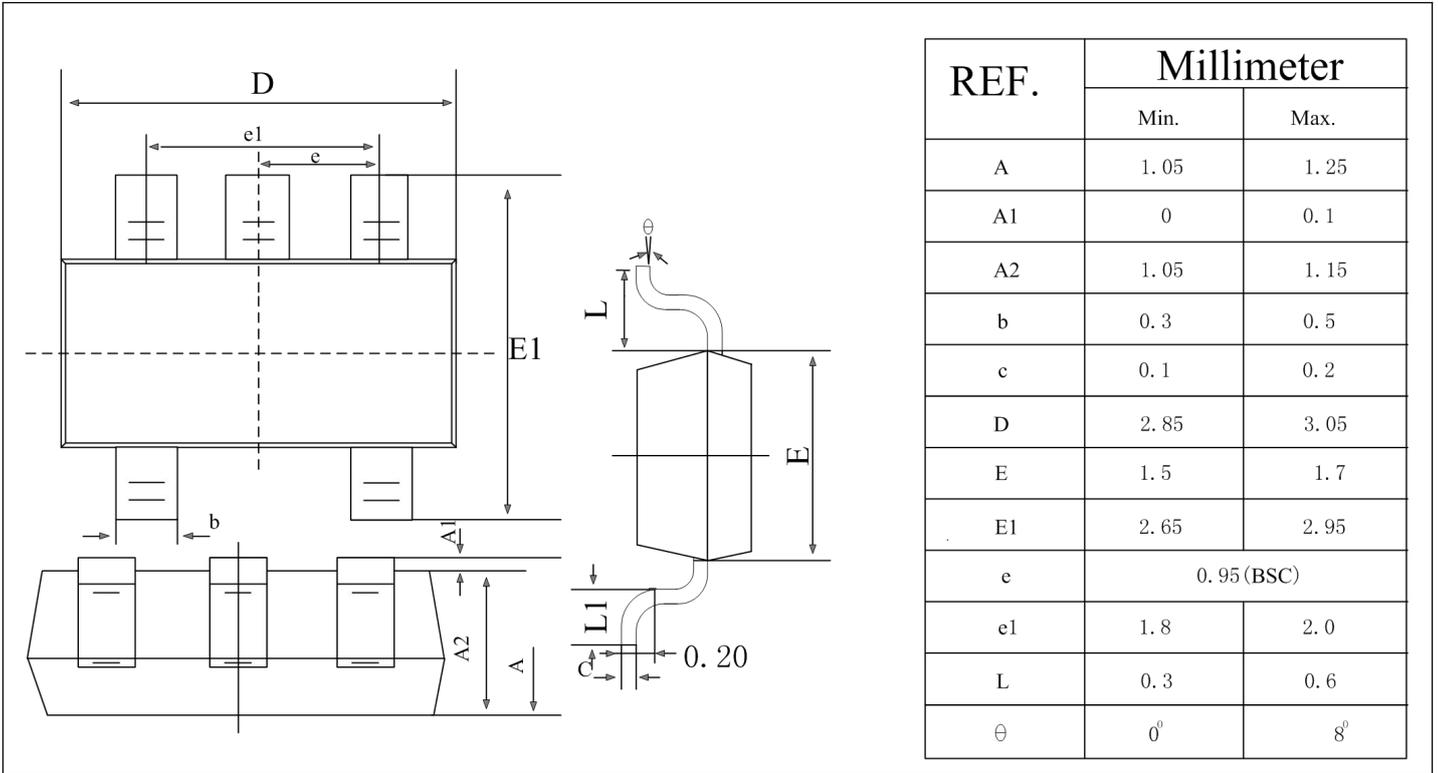
**SOT23-3**



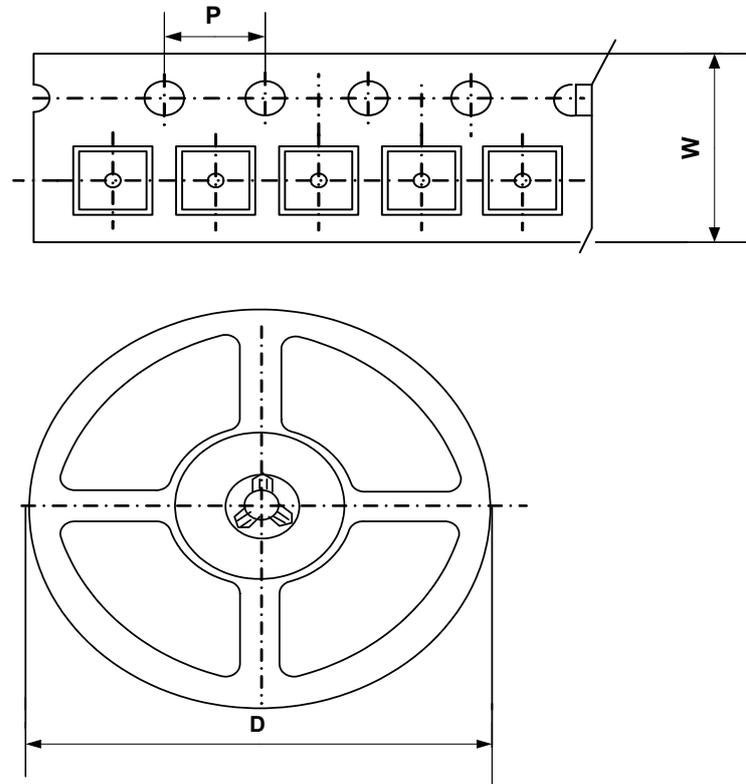
**SOT89-3**



**SOT23-5**



■ **Packing Information**



Type	W(mm)	P(mm)	D(mm)	Qty (pcs)
SOT23-3 SOT23-5	12.0±0.1 mm	8.0±0.1 mm	330±1 mm	3000pcs
SOT89-3	/	/	/	1000pcs

### IMPORTANT NOTICE

MST INCORPORATED MAKES NO WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, WITH REGARDS TO THIS DOCUMENT, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE (AND THEIR EQUIVALENTS UNDER THE LAWS OF ANY JURISDICTION).

MST Incorporated and its subsidiaries reserve the right to make modifications, enhancements, improvements, corrections or other changes without further notice to this document and any product described herein. MST Incorporated does not assume any liability arising out of the application or use of this document or any product described herein; neither does MST Incorporated convey any license under its patent or trademark rights, nor the rights of others. Any Customer or user of this document or products described herein in such applications shall assume all risks of such use and will agree to hold MST Incorporated and all the companies whose products are represented on MST Incorporated website, harmless against all damages.

MST Incorporated does not warrant or accept any liability whatsoever in respect of any products purchased through unauthorized sales channel. Should Customers purchase or use MST Incorporated products for any unintended or unauthorized application, Customers shall indemnify and hold MST Incorporated and its representatives harmless against all claims, damages, expenses, and attorney fees arising out of, directly or indirectly, any claim of personal injury or death associated with such unintended or unauthorized application.

Products described herein may be covered by one or more United States, international or foreign patents pending. Product names and markings noted herein may also be covered by one or more United States, international or foreign trademarks.

## X-ON Electronics

Largest Supplier of Electrical and Electronic Components

*Click to view similar products for [Linear Voltage Regulators](#) category:*

*Click to view products by [MST manufacturer](#):*

Other Similar products are found below :

[LV56831P-E](#) [LV5684PVD-XH](#) [MCDTSA6-2R](#) [L7815ACV-DG](#) [PQ3DZ53U](#) [LV56801P-E](#) [TLE42794G](#) [L78L05CZ/1SX](#) [L78LR05DL-MA-E](#) [636416C](#) [714954EB](#) [BA033LBSG2-TR](#) [LV5680P-E](#) [L78M15CV-DG](#) [TLS202B1MBV33HTSA1](#) [L79M05T-E](#) [TLS202A1MBVHTSA1](#) [L78LR05D-MA-E](#) [NCV317MBTG](#) [NTE7227](#) [LV5680NPVC-XH](#) [LT1054CN8](#) [MP2018GZD-5-Z](#) [MP2018GZD-33-Z](#) [MIC5281-3.3YMM](#) [MC78L06BP-AP](#) [TA48LS05F\(TE85L,F\)](#) [TA78L12F\(TE12L,F\)](#) [TC47BR5003ECT](#) [TCR2LN12,LF\(S](#) [TCR2LN28,LF\(S](#) [TCR2LN30,LF\(S](#) [TCR3DF295,LM\(CT](#) [TCR3DF40,LM\(CT](#) [BA178M20CP-E2](#) [L78M12ABDT](#) [LM7812SX/NOPB](#) [LR645N3-G-P003](#) [LR645N3-G-P013](#) [ZXTR2005P5-13](#) [SCD7812BTG](#) [TCR3DF335,LM\(CT](#) [ZXTR2012K-13](#) [TLE42994E V33](#) [ZXTR2008K-13](#) [ZXTR2005K-13](#) [LA5693D-E](#) [L88R05DL-E](#) [ADP3300ARTZ-2.7RL7](#) [LM120K-15/883](#)