

■ 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

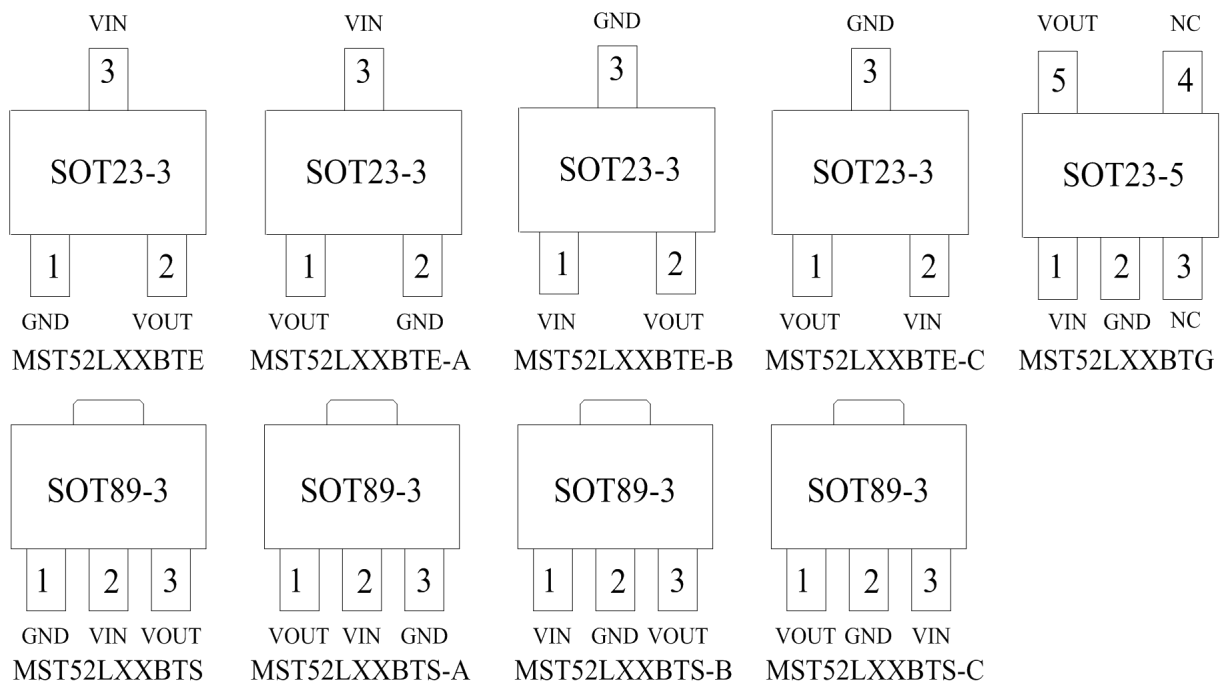
- A power supply device for batteries, etc
- Communication device
- Audio/video device
- Security monitoring equipment

■ 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

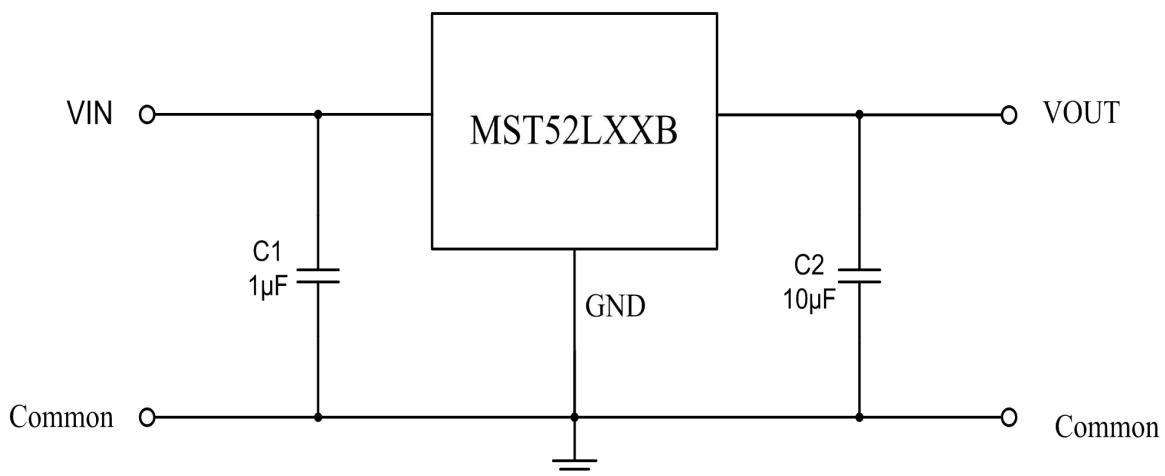


■ Pin Description

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



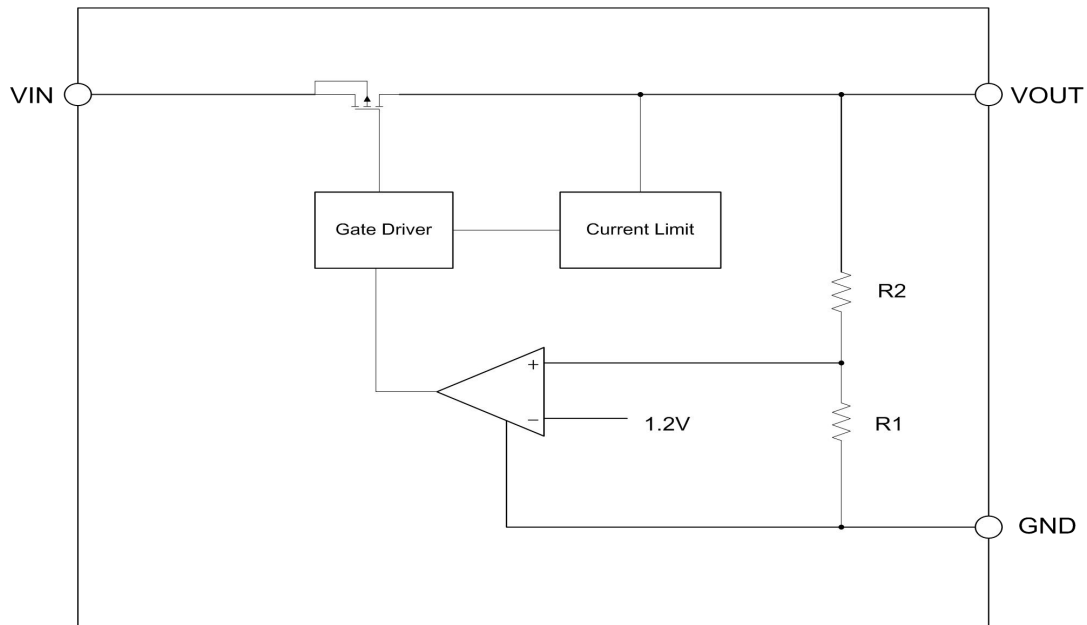
■ Absolute Maximum Ratings

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

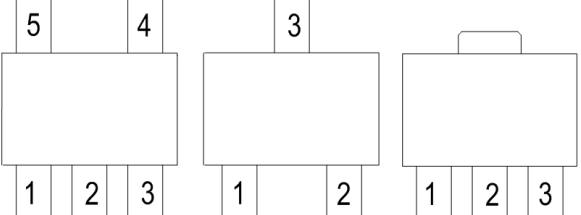
■ Electrical Characteristics (MST52LXXB Series T_A=25°C)

Symbol	Parameter	Test Condition	Min	Typ	Max	Unit
V _{IN}	Input voltage	no-load loss	3	—	24	V
I _{GND}	Quiescent current	V _{IN} =12V, no-load loss	—	—	3	μA
V _{OUT}	Output Voltage	V _{IN} =12V, I _{OUT} =10mA	V _{OUTNOM} * 0.98	V _{OUTNOM}	V _{OUTNOM} * 1.02	V
I _{OUT_MAX}	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 _{OUT}	Load Regulation	At V _{IN} = 10V, the output current goes from 1mA to 150mA	—	45	80	mV
ΔV _{OUT} x100/ ΔV _{IN} x V _{OUT}	Line Regulation	When the output is 10mA, the input voltage is V _{OUT} +2V to 24V	—	0.15	—	%/V
I _{SHORT}	short-circuit current	Output short circuit current to ground	—	100	—	mA

■ Functional Diagram

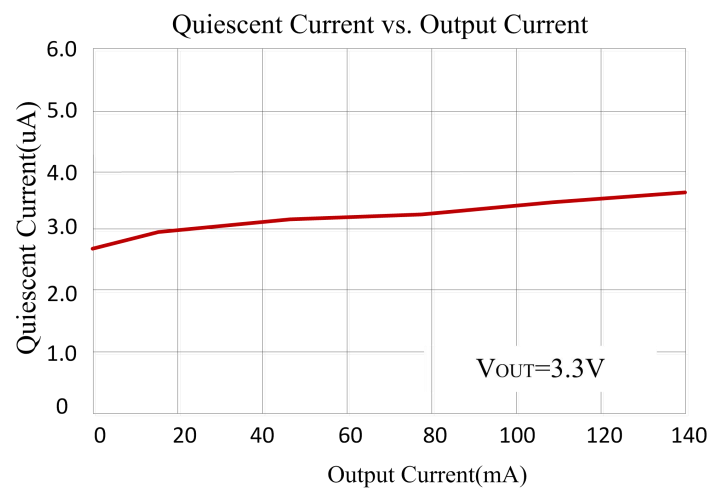
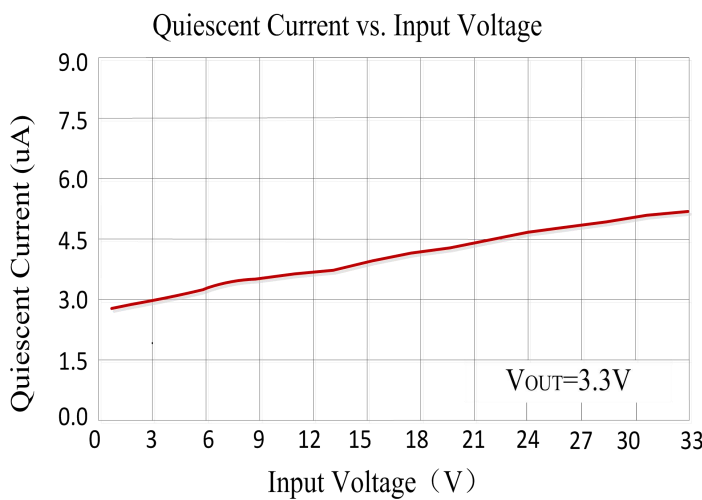
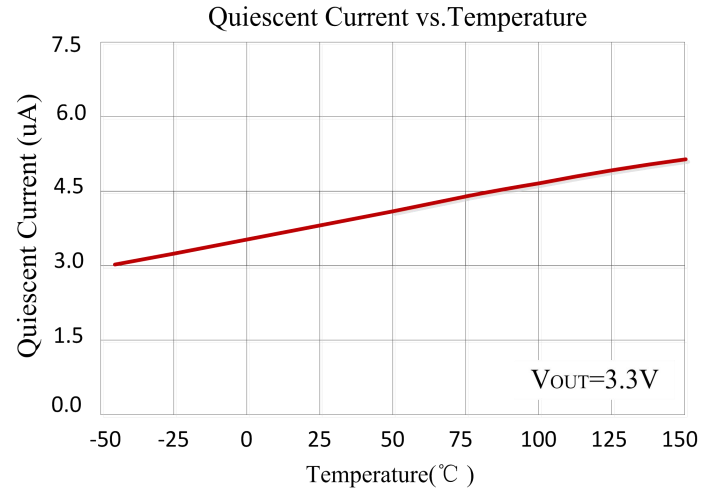
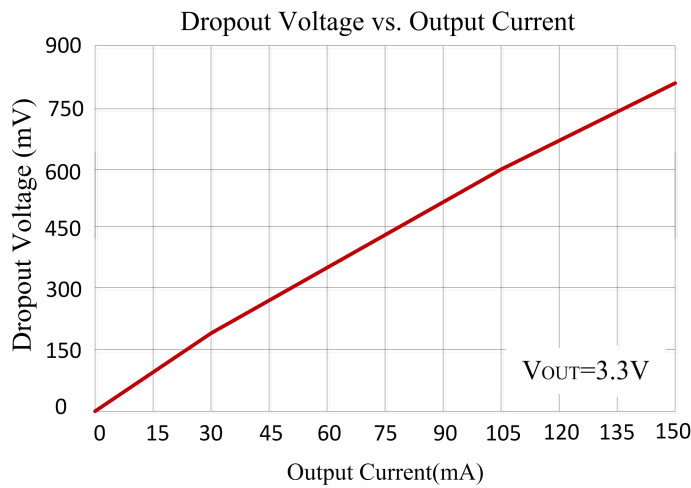
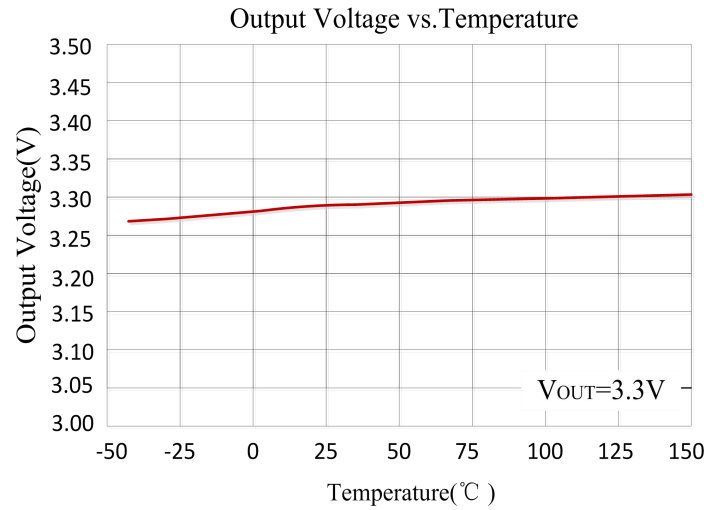
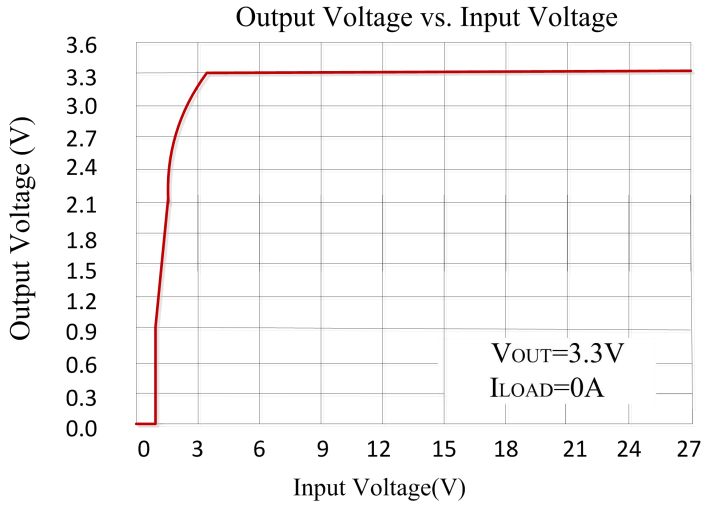


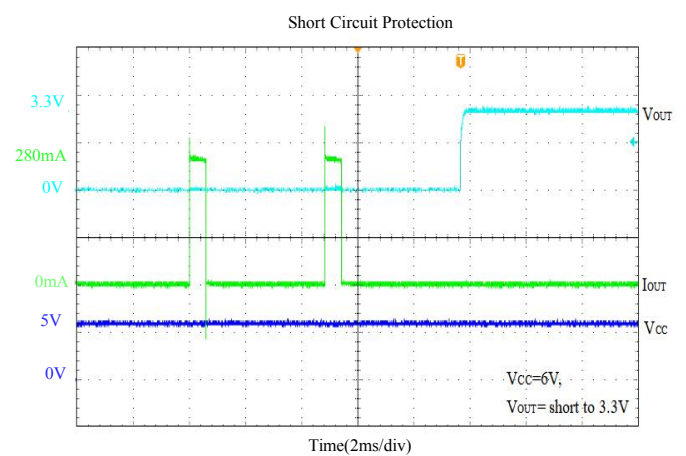
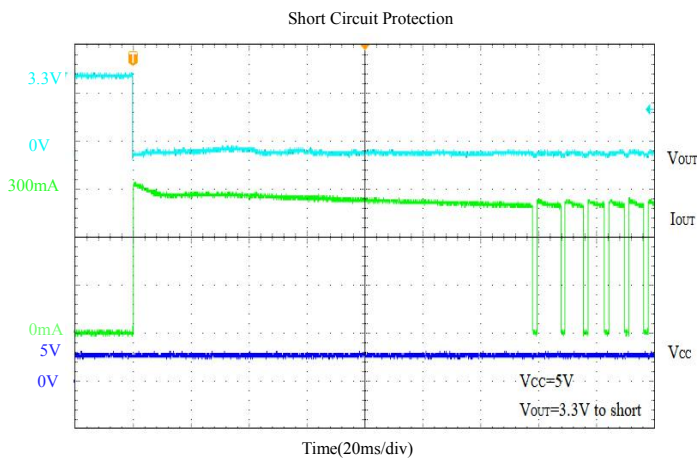
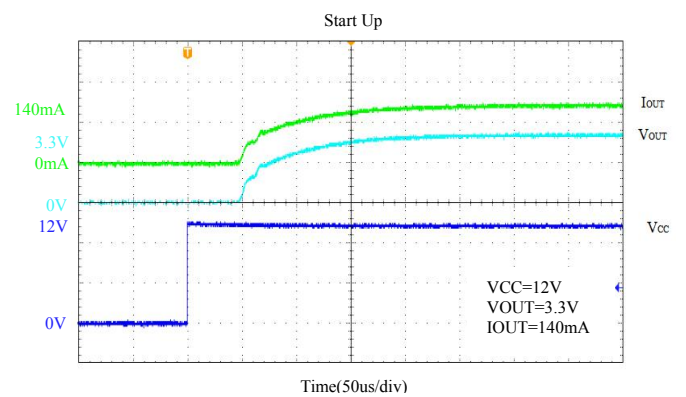
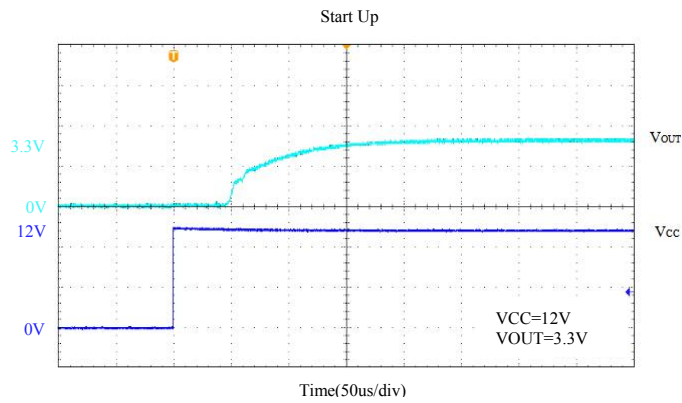
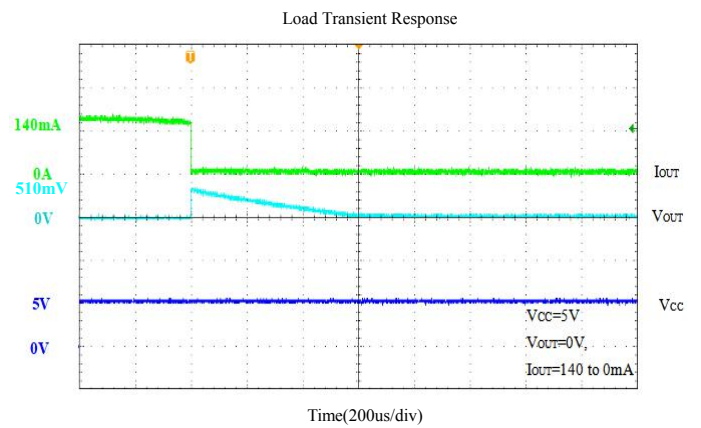
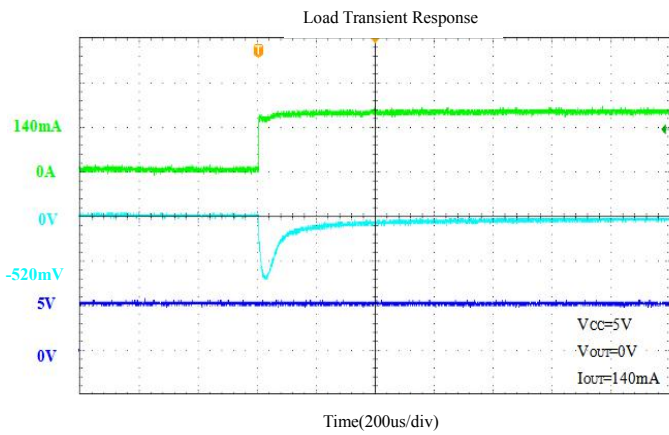
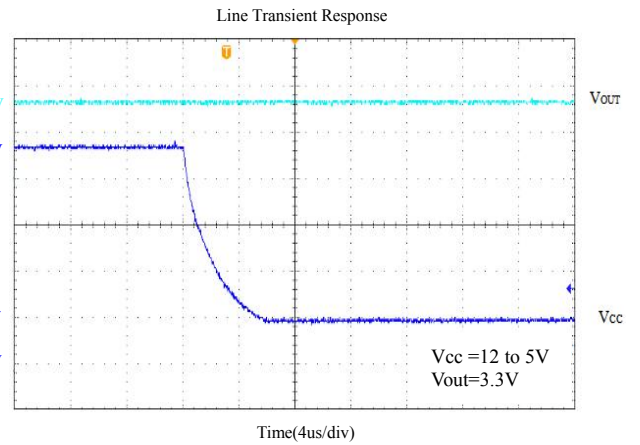
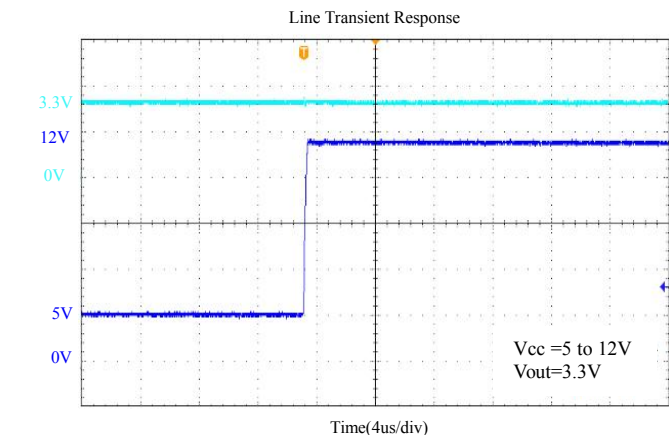
■ Marking information

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

■ Typical Performance Characteristics

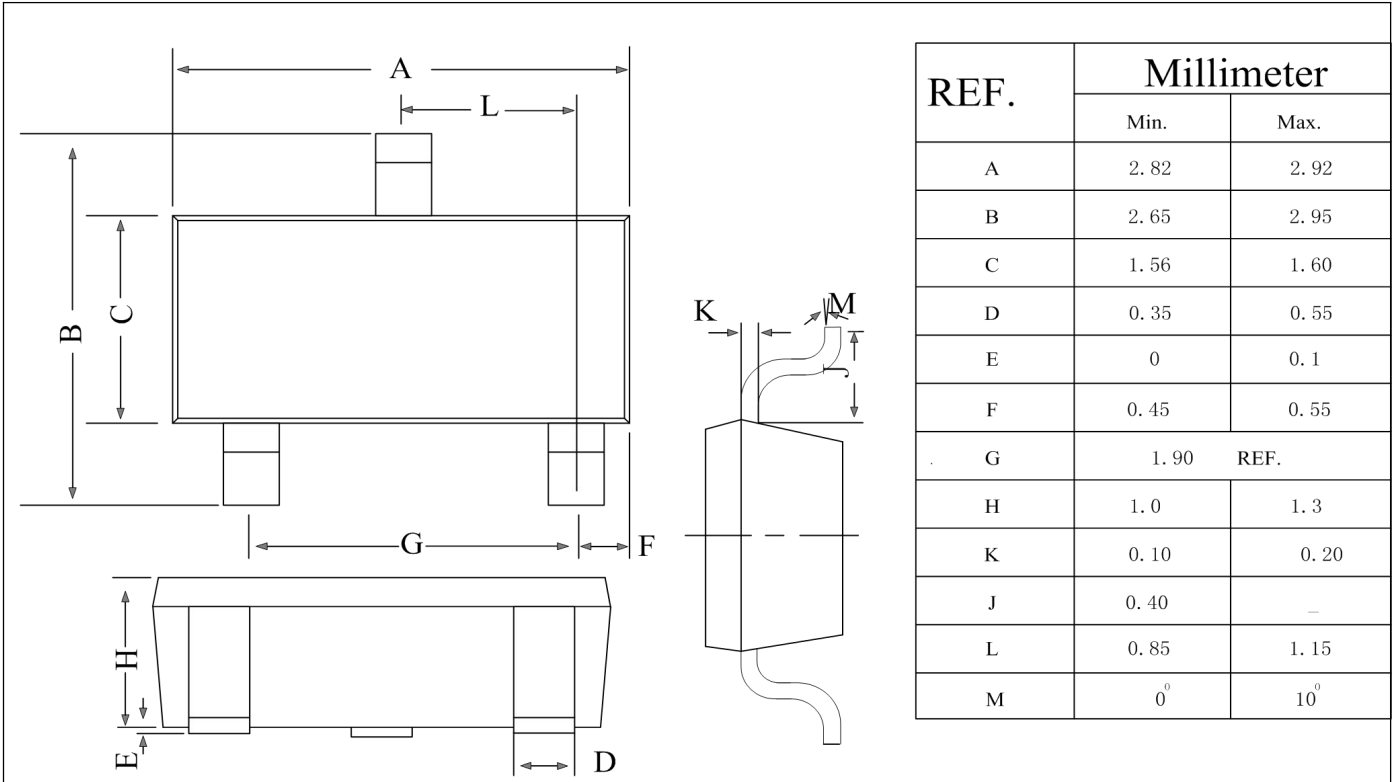
Test Condition: $T_A=25^{\circ}\text{C}$, $V_{in}=12\text{V}$, $I_{out}=1\text{mA}$, $C_{OUT}=10\mu\text{F}$, unless otherwise note



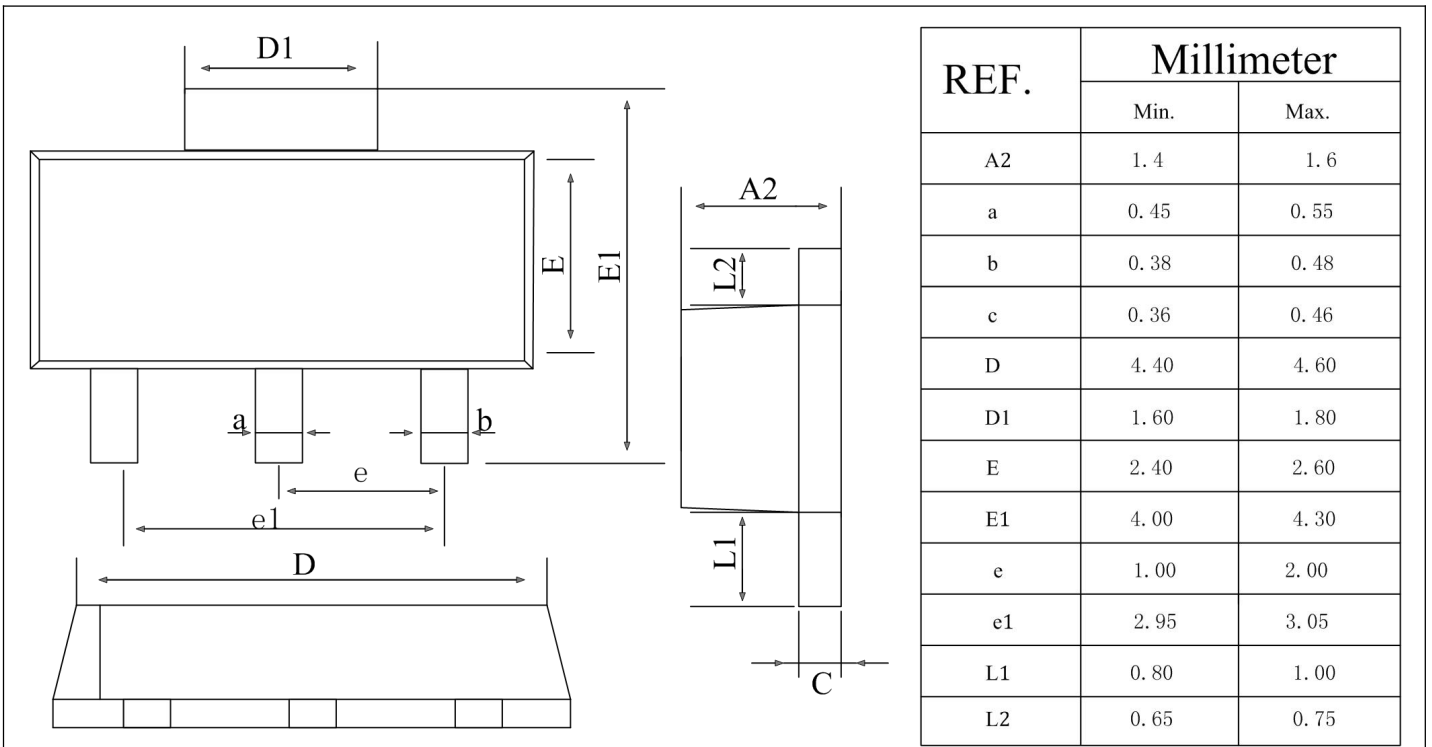


■ Package Information

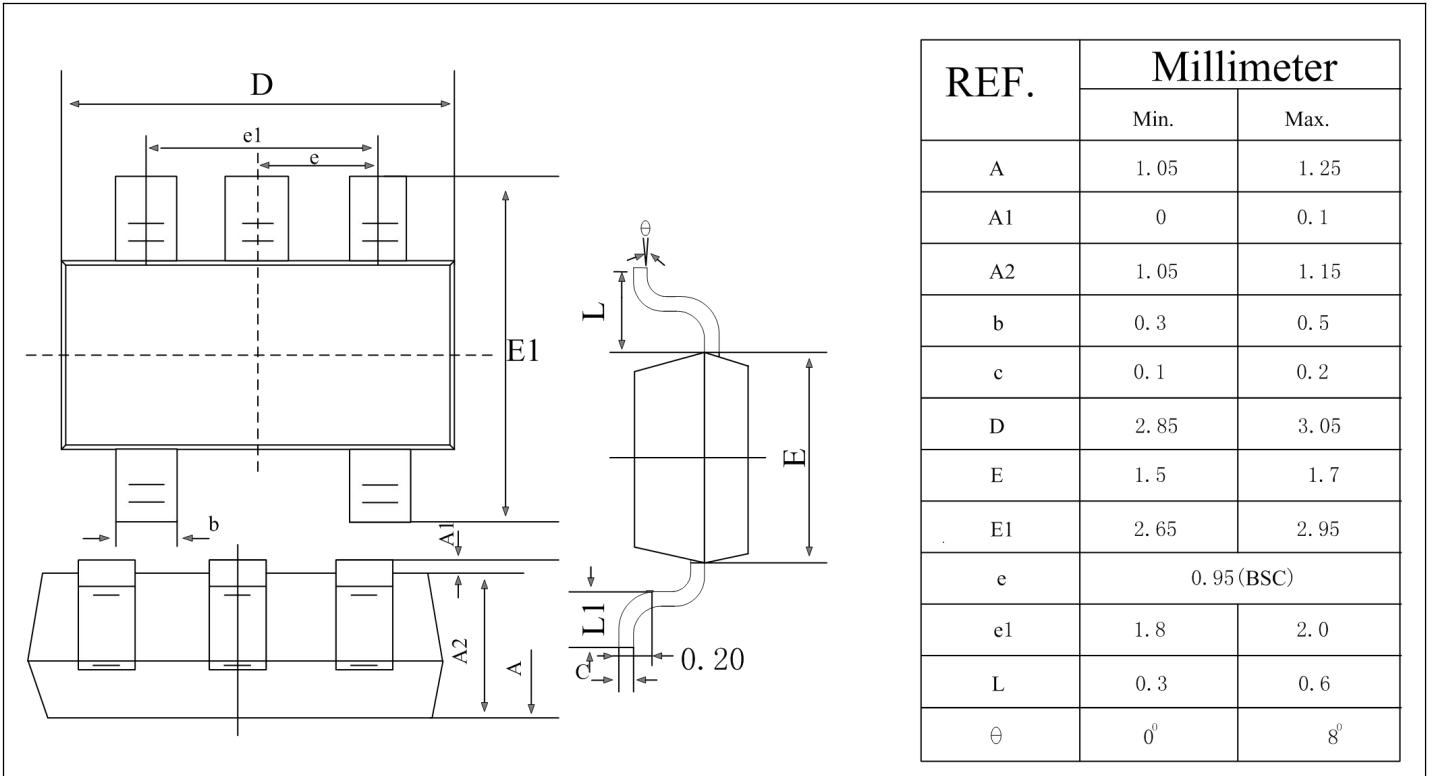
SOT23-3



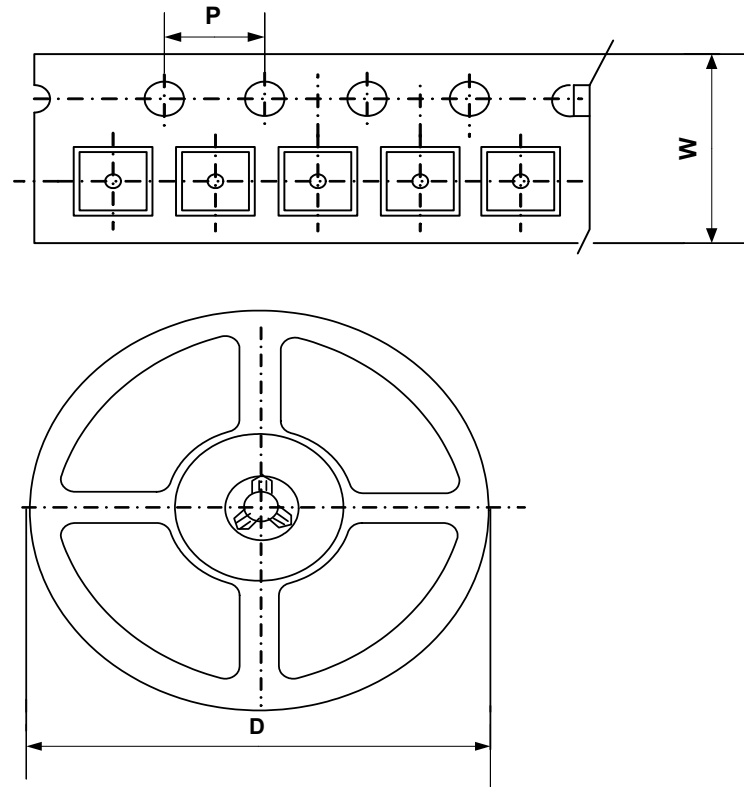
SOT89-3



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

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