

FEATURES

- Supply Voltage: 4.75V~40V
- Output Range: 1.8V,3.3V,3.6V,5.0V~10V
- Output Accuracy: $\pm 2\%$
- Output Current: 100mA (Up to 500mA Typ.)
- PSRR : 45dB @ 100Hz
- Dropout Voltage : 300mV @ $I_{OUT}=100mA$
- Quiescent Current : $6\mu A @ V_{IN}=7V$ (Typ.)
- Recommend Capacitor : 10uF

DESCRIPTION

The BL9152 series is a high accuracy, high input voltage low quiescent current, high speed, and low dropout Linear regulator with high ripple rejection. The device is manufactured with Bi-CMOS process. The BL9152 offers over-current limit and over temperature protection to ensure the device working in well conditions. The BL9152 regulators are available in standard SOT-89-3L packages. Standard products are Pb-free and Halogen-free.

APPLICATIONS

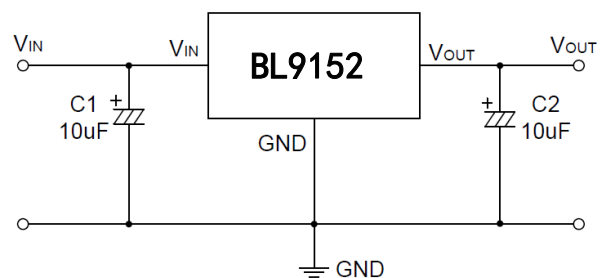
- Smart Meter
- Instrumentation
- Home appliances
- Industrial control
-

ORDERING INFORMATION

Part No.	BL9152-xxCC3TR
Package Type	SOT-89-3L
Tape & Reel	1000pcs/Reel

xx: Output voltage, e.g.
 18=1.8V,33=3.3V,36=3.6V,50=5.0V, etc

TYPICAL APPLICATION



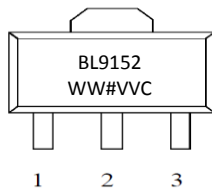
ABSOLUTE MAXIMUM RATING (Ta=25°C)

Parameter Name	Rating	Unit
Power Dissipation	Internal limited	mW
V _{IN} Range	-0.3~45	V
V _{OUT} Range	-0.3~12	V
Lead Temperature Range	260	°C
Storage Temperature Range	-55~150	°C
Operating Junction Temperature Range	125	°C
ESD MM	400	V
ESD HBM	4K	V

RECOMMENDED OPERATING CONDITIONS (Ta=25°C)

Parameter Name	Rating	Unit
Operating Supply voltage	4.75~40	V
Operating Temperature Range	-40~85	°C
Thermal Resistance(On PCB), R _{θJA}	43.5	°C/W
Power Dissipation	1000	mW

BODYING MARKING (SOT89-3L/TOP VIEW)



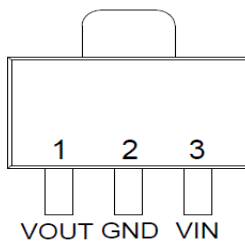
“#”: represents a space;

“WW”: represents the packaging week;

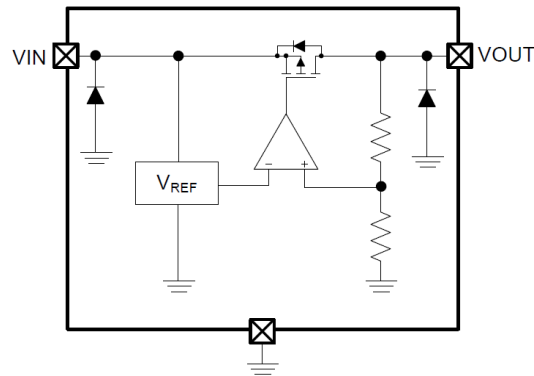
“VV”: represents voltage code,

VV	33	36	50	...
Voltage	3.3V	3.6V	5.0V	...

PIN CONFIGURATION



FUNCTIONAL BLOCK DIAGRAM



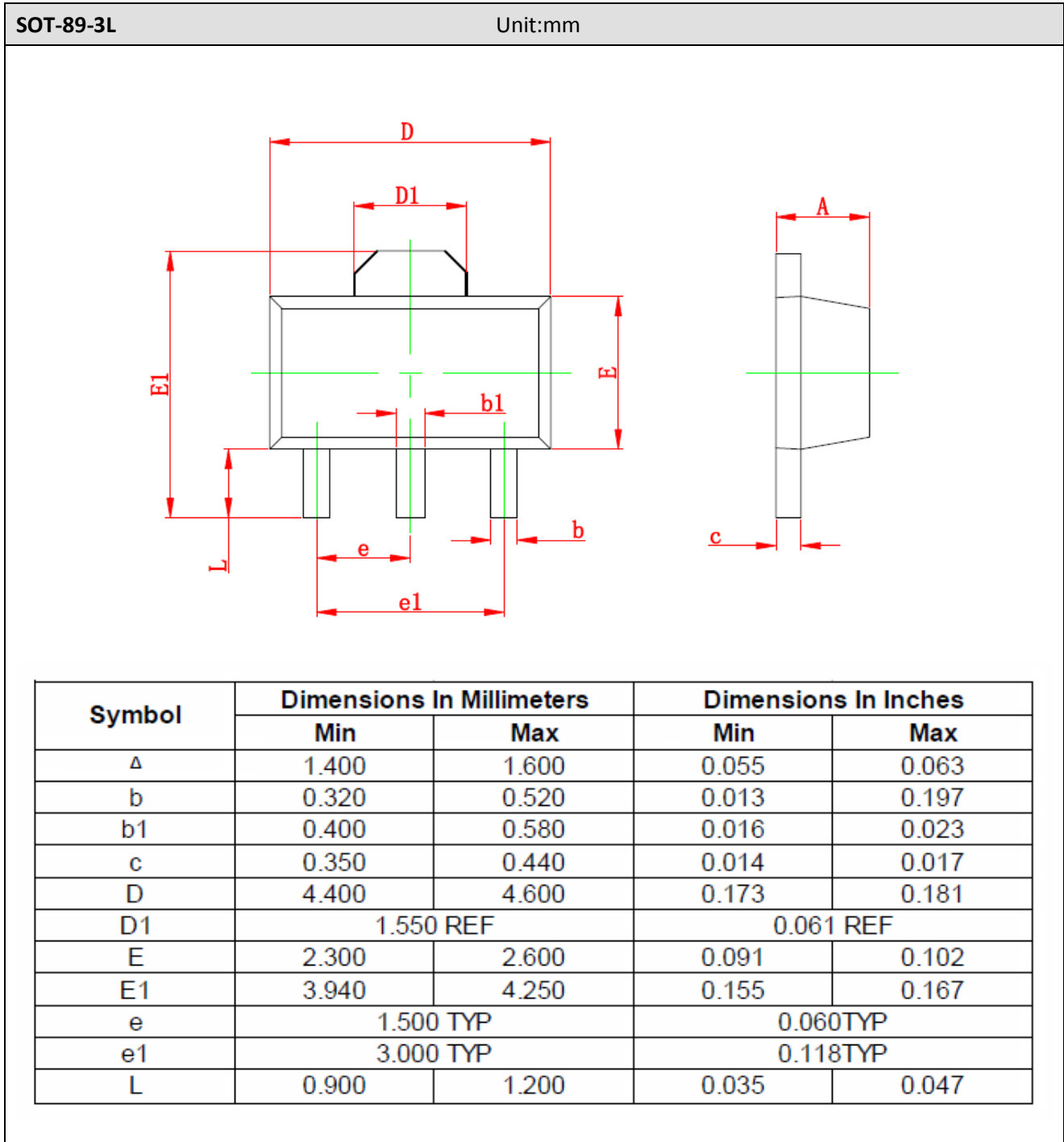
PIN DESCRIPTION

Pin Number	Pin Name	Function Description
1	V _{OUT}	Voltage Output
2	GND	Ground
3	V _{IN}	Voltage Input

ELECTRICAL CHARACTERISTICS (Ta=25°C, VIN=12V, CIN=COUT=10uF, unless otherwise noted)

Parameter Name	Symbol	Test Conditions	Min	Typ	Max	Unit
Input Range	V _{IN}	I _{OUT} =10mA	4.75		40	V
Output Voltage	V _{OUT}	V _{IN} =12V, I _{OUT} =10mA	3.234	3.3	3.366	V
			3.528	3.6	3.672	
			4.9	5.0	5.1	
Maximum Output Current	I _{OUT_PK}	V _{IN} =12V, R _L =1Ω		500		mA
Quiescent Current	I _Q	V _{IN} =3.6V, No load		5.8	7.8	A
		V _{IN} =5.5V, No load		5.9	7.9	
		V _{IN} =7V, No load		6	8	
		V _{IN} =24V, No load		7.5	10	
		V _{IN} =40V, No load		10	15	
Dropout Voltage	V _{DROP}	I _{OUT} =1mA		2	12	mV
		I _{OUT} =100mA		300	400	
Line Regulation	LNR	V _I =7~24V, V _{OUT} =5V, I _{OUT} =1mA		0.02		%V
		V _{IN} =7~45V, V _{OUT} =5V, I _{OUT} =1mA		0.1		
Load Regulation	LDR	V _{IN} =12V, I _{OUT} =1~100mA		0.6		%
Output Noise	e _{NO}	I _{OUT} =10mA	-100		100	μV
Ripple Rejection	PSRR	V _{IN} =10V V _{PP} =0.5V I _{OUT} =1mA	f=100Hz		50	dB
			f=1KHz		40	
			f=10KHz		30	
Thermal Protection	T _{SD}	V _{IN} =12V, I _{OUT} =1mA		155		°C
Thermal Protection Hys	T _{SD_HYS}	V _{IN} =12V, I _{OUT} =1mA		30		°C
Temperature Coficient	ΔVo/ΔT	V _{IN} =12V, I _{OUT} =1mA		±0.4		mV/°C

OUTLINE DIMENSIONS



Storage conditions and packaging

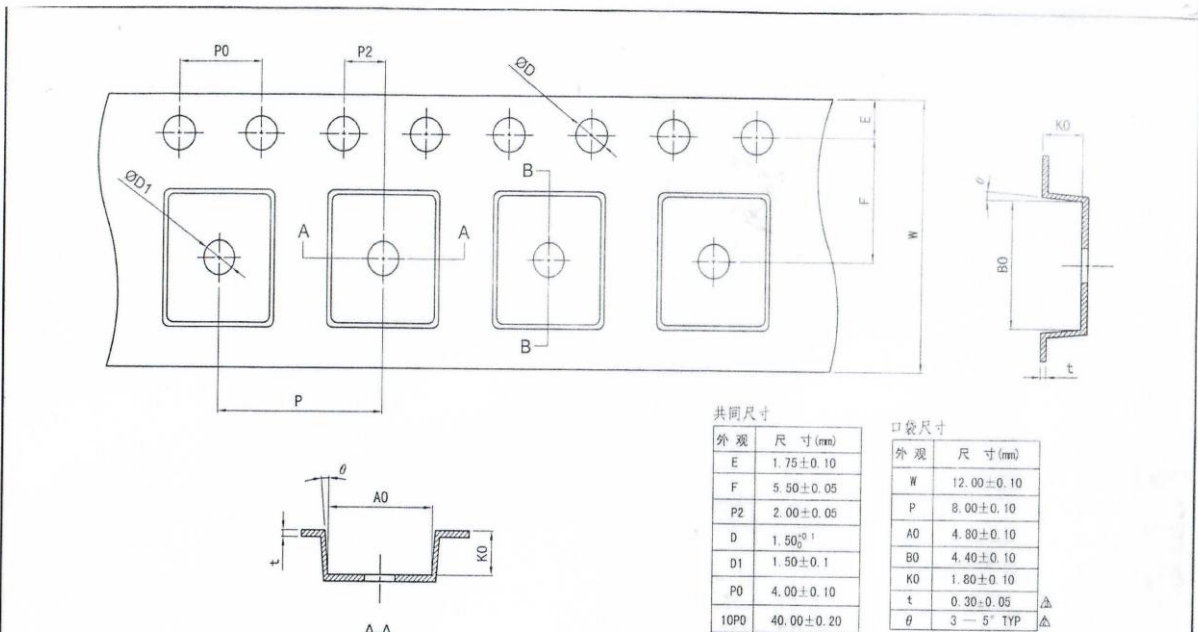
Humidity sensitivity level: MSL 3

Warranty period: two years

Packing method: Tape

Minimum packaging: 1000

Tray information



技术要求:

- 任意10个传输孔间距的累积误差±0.2mm;
- 载带沿长度方向的侧弯≤1mm/100mm;
- 从口袋底部上方为0.3mm处测定A0及B0;
- K0是从口袋的内部底面到载带的顶部表面测量的尺寸;
- 表面电阻率: $10^5 \sim 10^{10} \Omega/\square$;
- 粗糙度: $Ra < 0.8 \mu m$;
- 颜色: 黑色(参考色号: C0 M0 Y35 K100)。

拟制	王永忠 2005.05.23	测试部	✓ 孙雅迪 12.5.10
审核	孙雅迪 2005.5.10	制造部	
复审	孙雅迪 2005.5.10	采购部	
设备部		销售部	
质量部	孙雅迪 2005.5.10	标准化	孙雅迪 12.5.10
制图		批准	✓ 孙雅迪 12.5.10
参考图号		面:	A4 比

△	名称由SOT-89改为SOT89-3L	张耀强	20120510
△	修改技术要求第10项改为10°	张耀强	20091228
△	将0.24±0.05改为0.30±0.05	张耀强	20060725
△	增加附加标注	张耀强	20060725
△	PTCZ8081798改为PTCZ808HTTY01	于永立	20050523
更改标志	更改名称	张安	日期

天水华天科技股份有限公司
Tian Shui Hua Tian Technology Co., Ltd

△ SOT89-3L 图号: PTCZ80402HTTY01 △

载带

单位	版次	张数
mm	4版	

材料: PC B(黑色防静电) 第1张 共1张

例: 1:1