

SHR3133 Low-Drift, Low-Power, Small-Footprint Series Voltage Reference

1 Features

- Initial accuracy: $\pm 0.15\%$ Maximum
- Temperature coefficient: 15ppm/°C Maximum from -40°C to $+125^{\circ}\text{C}$
- Operating temperature range: -40°C to $+125^{\circ}\text{C}$
- Output current: $\pm 10\text{ mA}$
- Low quiescent current: 125 μA
- Ultra-low zero load dropout voltage: 200 mV
- Input voltage: 2.7 ~ 5.5 V
- Output 1/f noise (0.1 Hz to 10 Hz): 15 $\mu\text{Vp-p/V}$
- Long-term stability: 45 ppm/1000 hrs
- Small footprint 3 pin SOT-23 package pinouts:

2 Applications

- Factory Automation: PLC/Transmitters/DCS
- Test Measurement Equipment
- Servo driver and Invertor
- Precision Reference for MCU's internal ADC/DAC

3 Description

The SHR3133 device is a low temperature drift (15 ppm/°C Maximum), low-power, precision CMOS voltage reference, featuring $\pm 0.15\%$ maximum initial accuracy, low operating current with power consumption less than 125 μA . This device also offers low output noise of 15 $\mu\text{Vp-p/V}$. The SHR3133 is compatible to most of the ADC and DAC, It offers a small SOT-23 package. Stability and system reliability are further improved by the low output-voltage hysteresis of the device and low long-term output voltage drift. Furthermore, the small size and low operating current of the devices (125 μA) benefit portable and battery-powered applications.

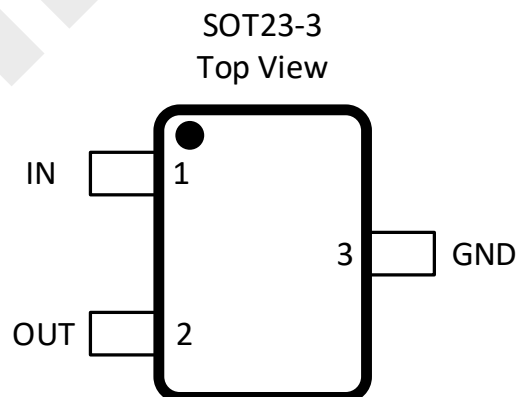
SHR3133 is specified for the wide temperature range of -40°C to $+125^{\circ}\text{C}$.

Device Information

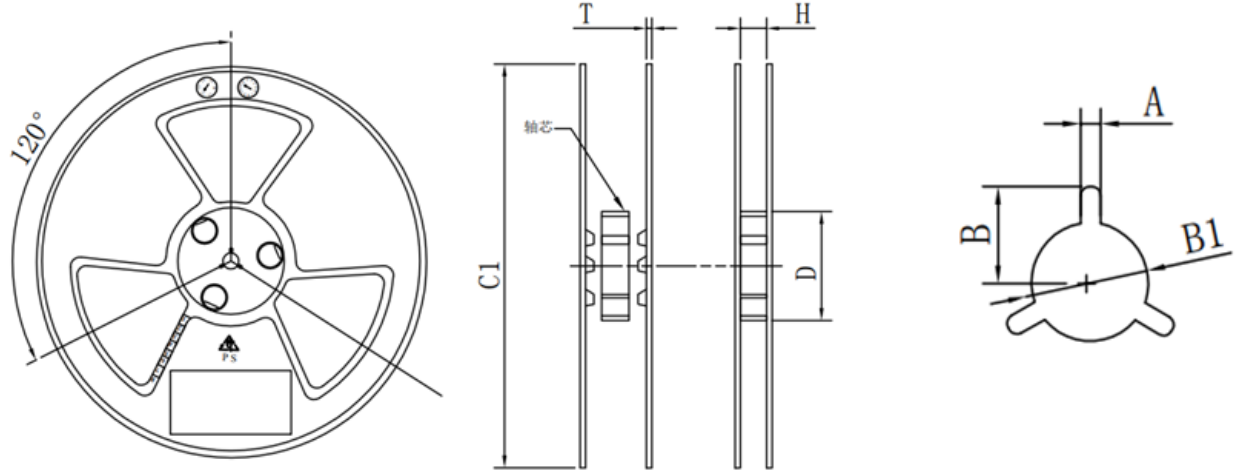
PART NAME	PACKAGE (PIN) ⁽¹⁾	BODY SIZE (NOM)
SHR3133	SOT-23 (3)	2.90 mm × 1.30 mm

(1) For all available packages, see the orderable addendum at the end of the data sheet

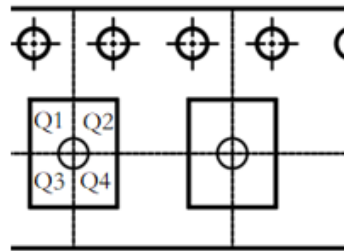
PIN Configuration



10 Tape and Reel Information

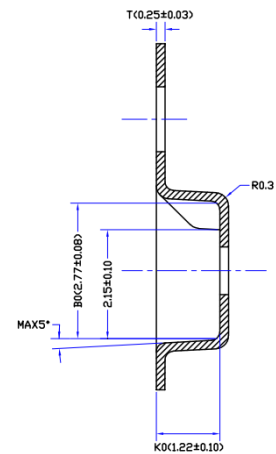
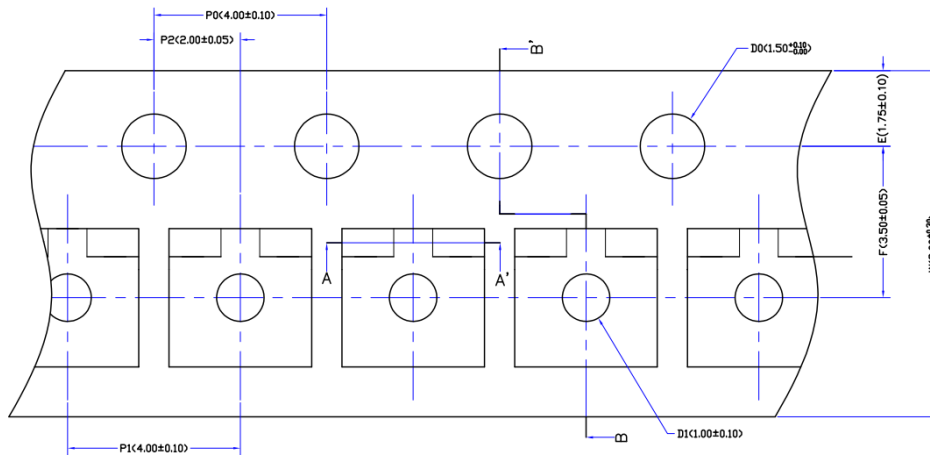


C1	178±1
H	8.4+1/-0
A	2.2±0.5
B	Ø13.5±0.2
T	1.2±0.2
D	Ø60±0.5
Pin1 Quadrant	Q3

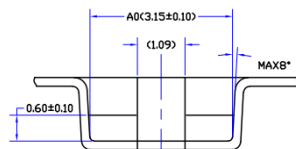


User Direction of Feed

Note: Q1~Q4 is Pocket Quadrants

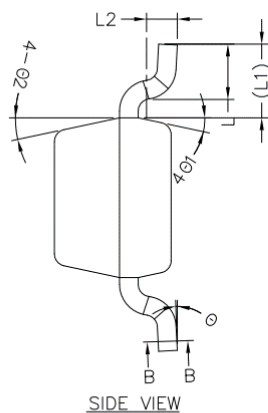
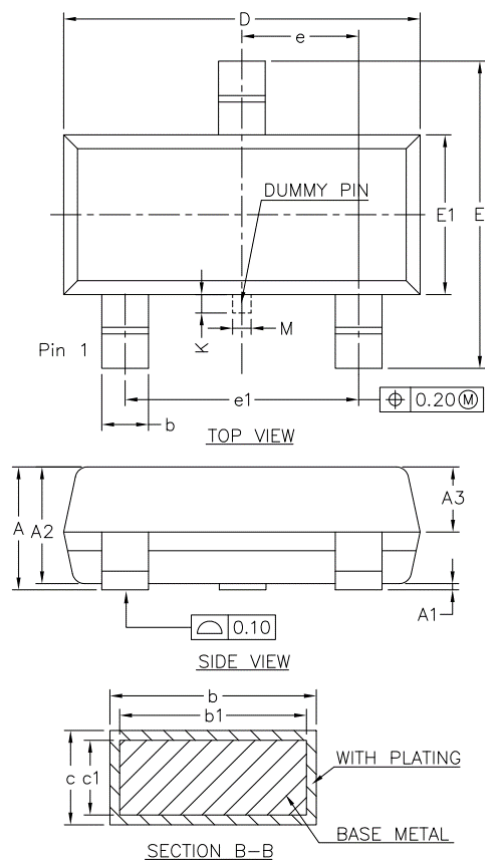


Section B-B'



Section A-A'

11 Package Information



COMMON DIMENSIONS
(UNITS OF MEASURE=MILLIMETER)

SYMBOL	MIN	NOM	MAX
A	0.89	—	1.12
A1	0.01	—	0.10
A2	0.88	0.95	1.02
A3	0.43	0.53	0.63
b	0.36	—	0.50
b1	0.35	0.38	0.45
c	0.14	—	0.20
c1	0.14	0.15	0.16
D	2.80	2.90	3.00
E	2.35	2.50	2.64
E1	1.20	1.30	1.40
e	0.90	0.95	1.00
e1	1.80	1.90	2.00
L	0.40	0.45	0.60
L1	0.60REF		
L2	0.25BSC		
M	0.10	0.15	0.25
K	0	—	0.25
Ø	0°	—	8°
Ø1	10°	12°	14°
Ø2	10°	12°	14°

12 Ordering Guide

Orderable Device	Package	Package Qty	MSL-Peak Temp	Lead Fish Plating	Op Temp (°C)	RoHS (Pb Free)
SHR3133TST3IR	SOT23-3	3000	Level 1-260°C	100%Sn	-40 to 125°C	Yes
SHR3133TST3IT	SOT23-3	250	Level 1-260°C	100%Sn	-40 to 125°C	Yes

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