

Description

ECS1234 is special made for low operation voltage, 2.7V, to active the chip which includes the following on a single silicon chip: voltage regulator, Hall voltage generator, small-signal amplifier, chopper stabilization, Schmitt trigger, CMOS output driver. Advanced CMOS wafer fabrication processing is used to take advantage of low-voltage requirements, component matching, very low input-offset errors, and small component geometries. This device requires the presence of omni-polar magnetic fields for operation.

The package type is in a Halogen Free version has been verified by third party Lab.

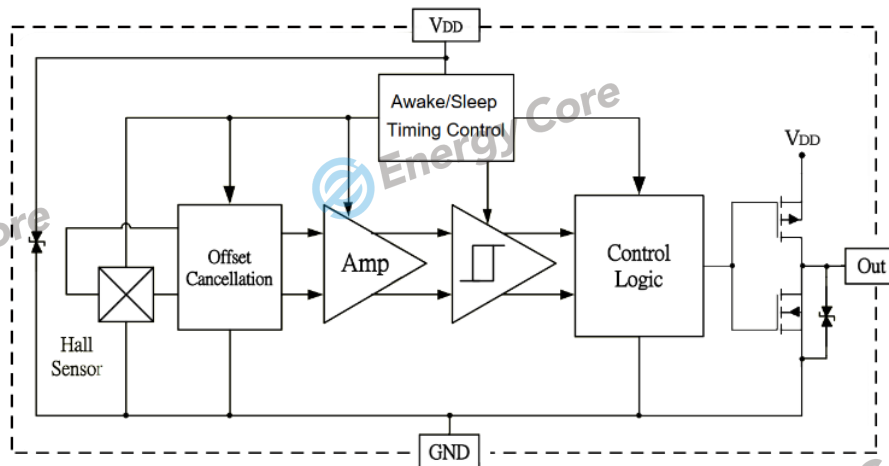
Feature

- ◆ Input voltage range : 2.7V~5.5V
- ◆ Reverse bias protection on power supply pin
- ◆ Solid-State reliability
- ◆ 85°C for E spec
- ◆ Good ESD protection

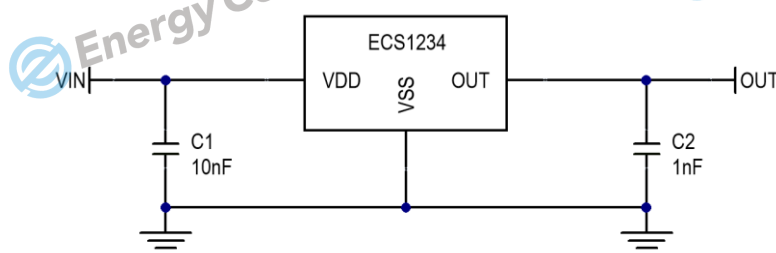
Application

- ◆ Solid state switch
- ◆ Limit switch
- ◆ Current limit
- ◆ Interrupter
- ◆ Current sensing
- ◆ Magnet proximity sensor for reed switch replacement

Functional Block Diagram



Typical Application



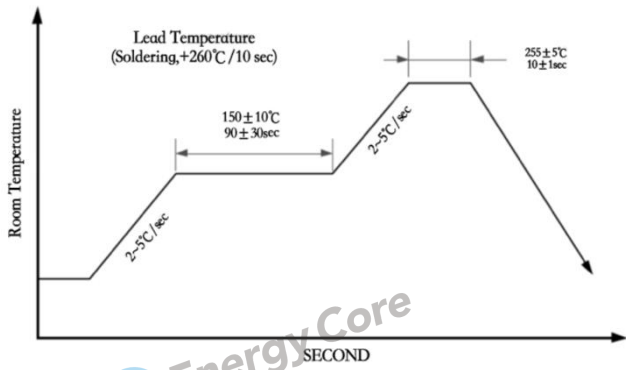
Absolute Maximum Ratings

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Supply Voltage	V_{DD}				6	V
Output Voltage	V_{OUT}				6	V
Reverse Voltage	V_{DD}				-0.3	V
Output Current	I_{OUT}				1	mA
Operating Temperature Range	T_A		-40		+85	°C
Storage temperature range	T_S		-65		+150	°C
Junction Temperature	T_J				+150	°C
Thermal Resistance	θ_{JA}	DR/YR	206/310			°C/W
	θ_{JC}	DR/YR	148/223			°C/W
Package Power Dissipation	P_D	YR			400	mW
		DR			606	mW

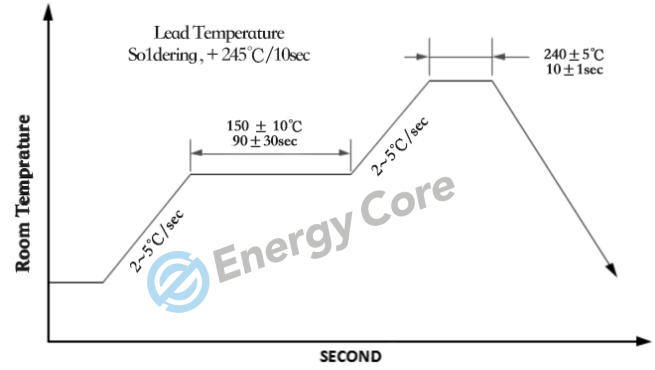
Electrical Characteristics $V_{in}=3V, T_A=25^\circ\text{C}$ (unless otherwise noted)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Input Voltage	V_{DD}		2.7		5.5	V
Input Current	I_{DD}	Awake State		2.5		mA
		Sleep State		2		μA
Output Leakage Current		Output Off			1	μA
Awake mode time	T_{aw}			20		μs
Sleep mode time	T_{SL}			80		mS
Operate Point	B_{OP}			30	50	Gauss
Release Point	B_{RP}		10	20		Gauss
Hysteresis	B_{HYS}			10		Gauss
Electro-Static Discharge	HBM		4			KV

IR Reflow Curve



YR Soldering Condition

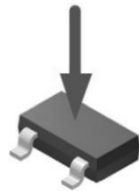


DR Soldering Condition

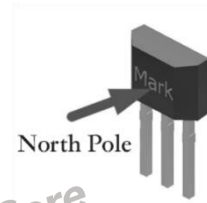
Ordering Information

Part Number*	Package	Top Marking
ECS1234-YR	SOT23-3	234XX
ECS1234-DR	TO92-3L	234

North Pole

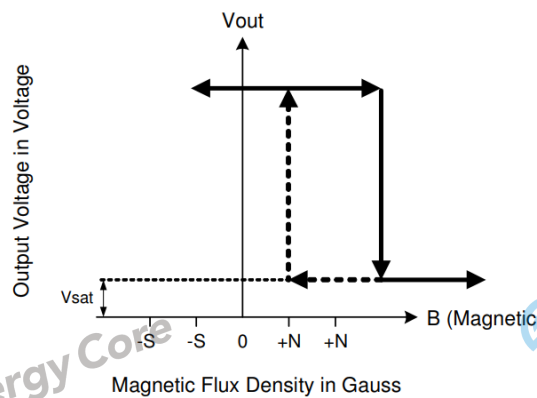


YR Package



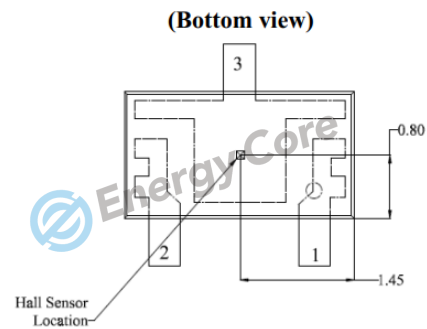
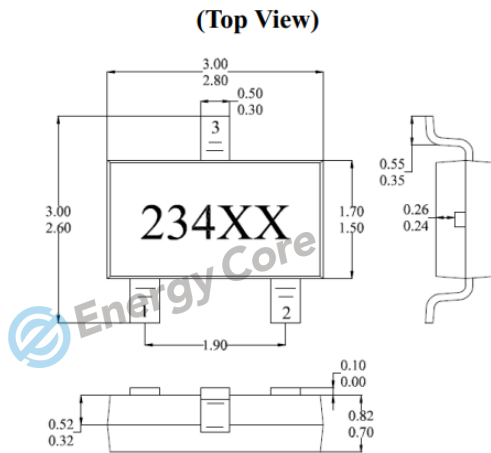
North Pole

DR Package

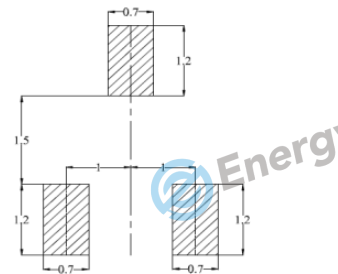


Sensor Location, Package And Marking

YR Package (TSOT23-3)



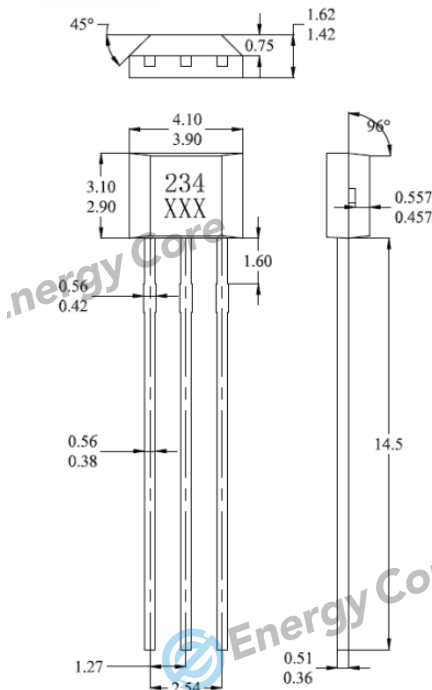
(For reference only) Land Pattern



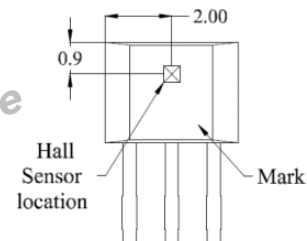
NOTES:

- PINOUT (See Top View at left):
Pin 1 VDD
Pin 2 Output
Pin 3 GND
- Controlling dimension: mm.

DR Package (TO92-3L)

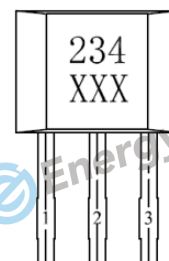


Hall Chip location



Output Pin Assignment

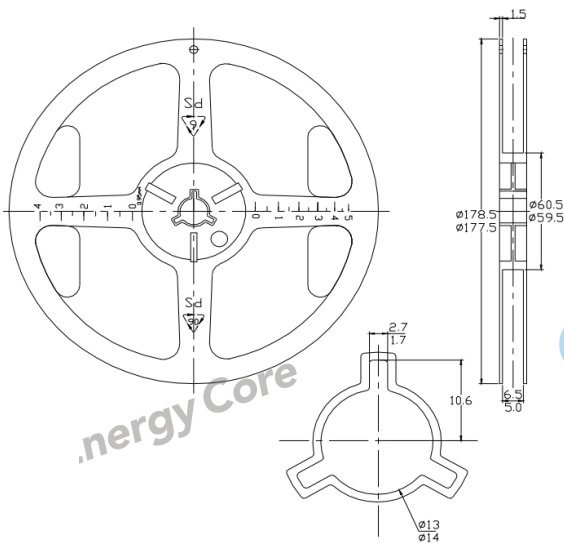
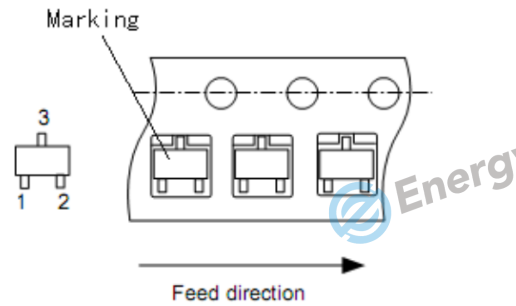
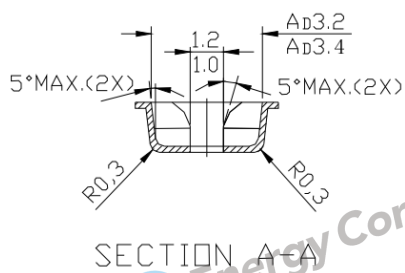
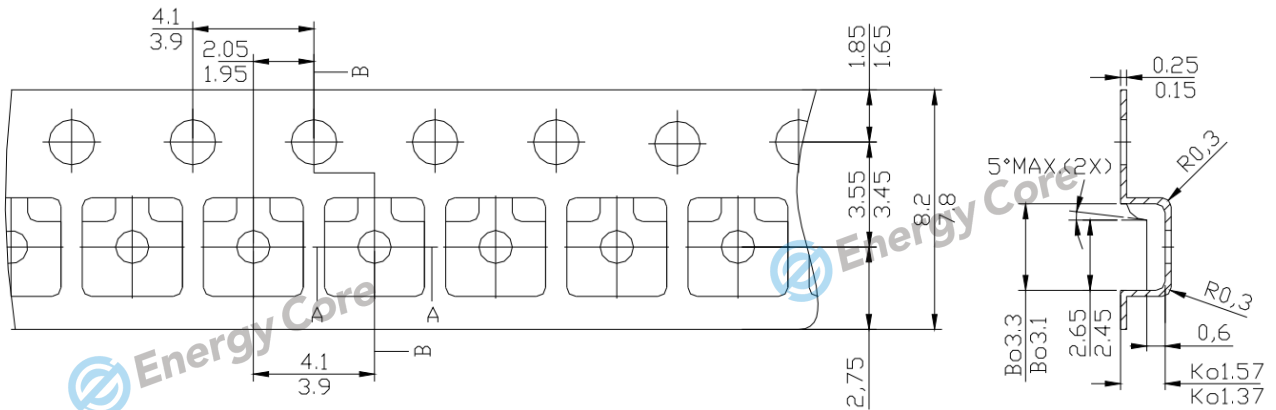
(Top view)



NOTES:

- Controlling dimension: mm
- Leads must be free of flash and plating voids
- Do not bend leads within 1mm of lead to package interface.
- PINOUT:
Pin 1 VDD
Pin 2 GND
Pin 3 Output

TSOT23-3 Package Tape On Reel Dimension



NOTES:

1. Material: Conductive polystyrene;
2. DIM in mm;
3. 10 sprocket hole pitch cumulative tolerance ± 0.2 ;
4. Camber not to exceed 1mm in 100mm;
5. Pocket position relative to sprocket hole measured as true position of pocket, not pocket hole;
6. (S.R. OHM/SQ) Means surface electric