

Description

ECS1255 Hall-effect sensor is a temperature stable, stress-resistant, Low Tolerance of Sensitivity micro-power switch. Superior high-temperature performance is made possible through a dynamic offset cancellation that utilizes chopper-stabilization. This method reduces the offset voltage normally caused by device over molding, temperature dependencies, and thermal stress. 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.

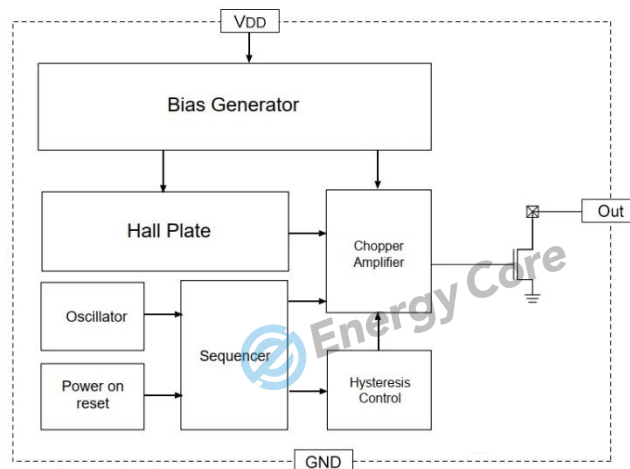
Feature

- ◆ Input voltage range : 2.4V~5.5V
- ◆ Solid-State reliability
- ◆ CMOS Hall IC Technology
- ◆ Good ESD protection

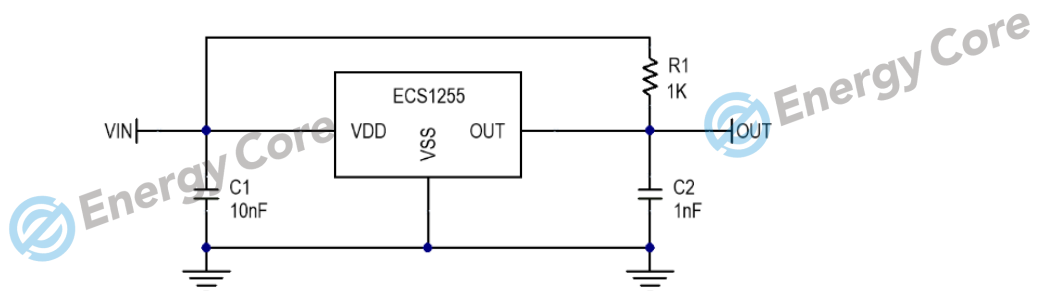
Application

- ◆ Solid state switch
- ◆ Lid close sensor for battery powered devices
- ◆ Interrupter
- ◆ Water Meter
- ◆ Magnet proximity sensor for reed switch replacement

Functional Block Diagram



Typical Application



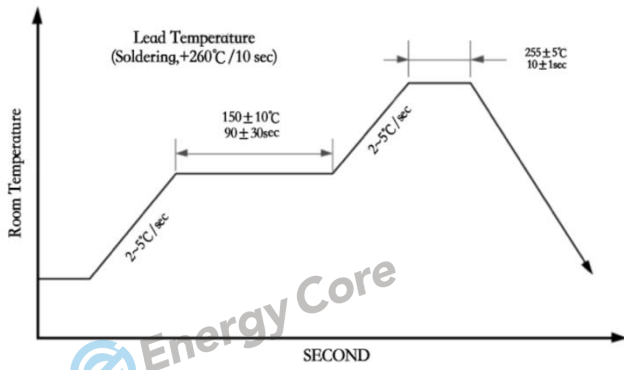
Absolute Maximum Ratings

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Supply Voltage	V_{DD}		2.4	2.7	5.5	V
Output Voltage	V_{OUT}			2.7	5.5	V
Reverse Voltage	V_{DD}				-0.3	V
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}	YR/DR	543/206			°C/W
	θ_{JC}	YR/DR	410/148			°C/W
Package Power Dissipation	P_D	YR			400	mW
		DR			606	mW

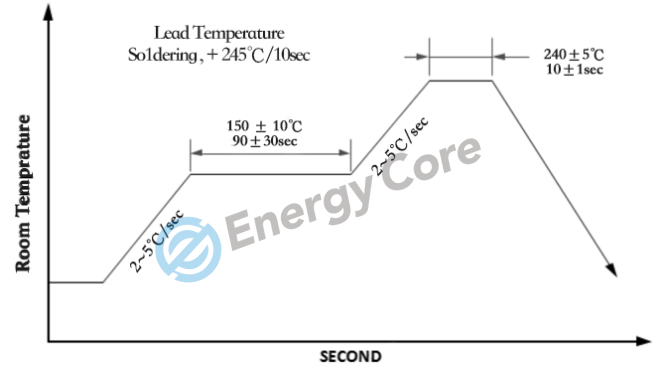
Electrical Characteristics $V_{in}=2.7V, T_A=25^{\circ}C$ (unless otherwise noted)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Input Voltage	V_{DD}		2.4		5.5	V
Average Supply Current			0.5	3	20	μA
Average Supply Current (operating phase)				1.1		mA
Average Supply Current (stand-by phase)				2.5		μA
Output Leakage Current					1	μA
Operating Time			40	60	80	μS
Standby Time			100	150	200	mS
Operate Point	B_{OP}		+15 (-35)	± 25	+35 (-15)	Gauss
Hysteresis	B_{HYS}		5	10	15	Gauss
Electro-Static Discharge	HBM		4			KV

IR Reflow Curve



YR Soldering Condition

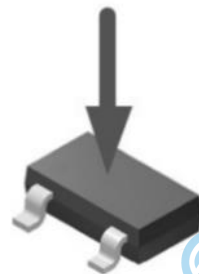


DR Soldering Condition

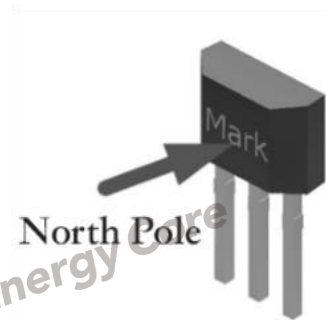
Ordering Information

Part Number*	Package	Top Marking
ECS1255-YR	TSOT23-3	255XX
ECS1255-DR	TO-92S-3	255

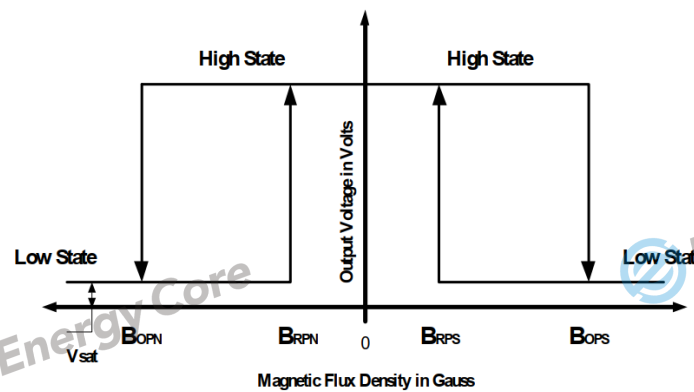
North Pole



YR Package

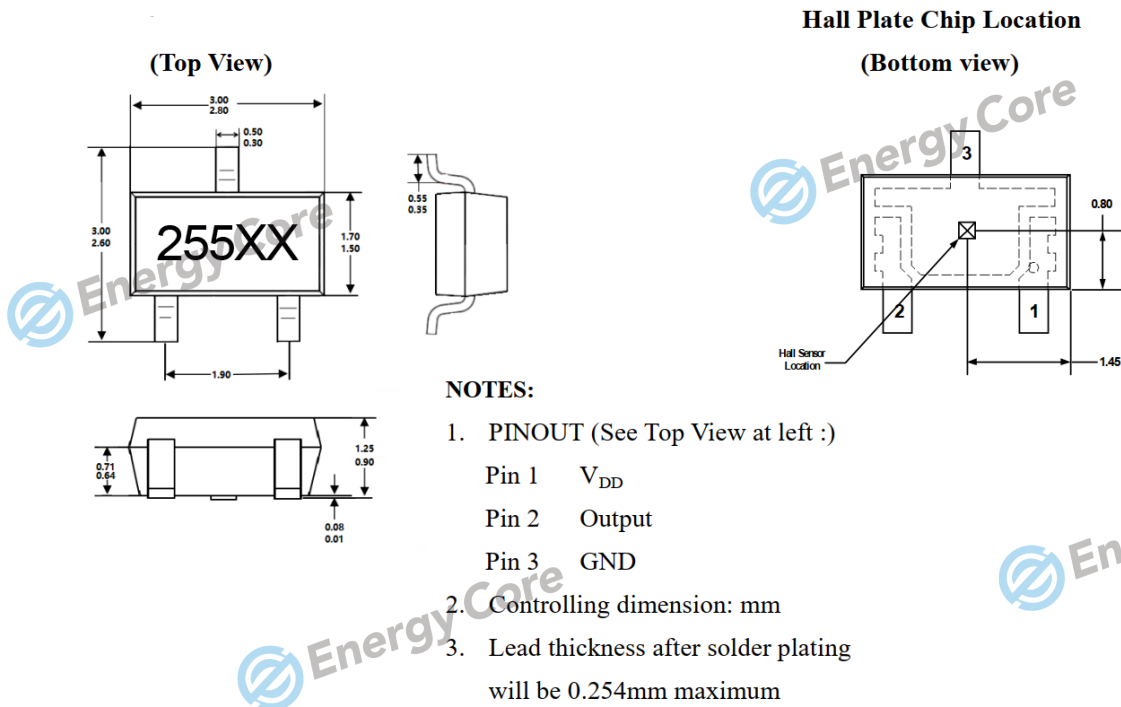


DR Package

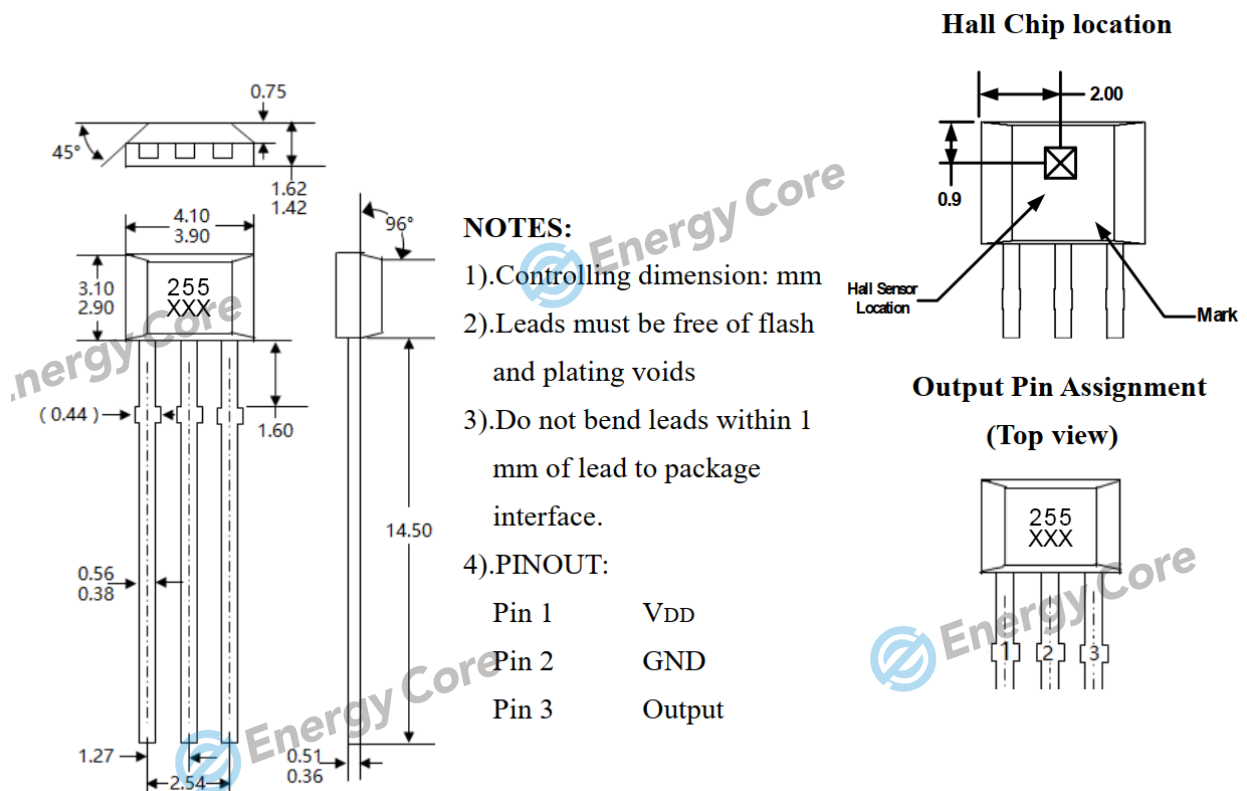


Sensor Location, Package And Marking

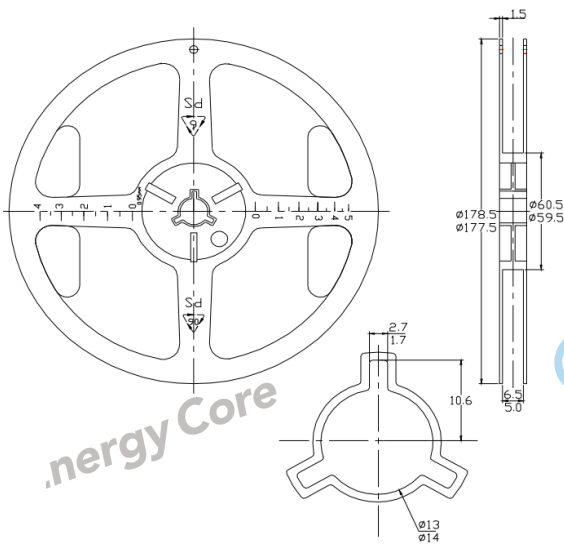
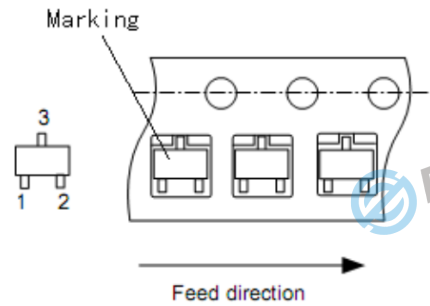
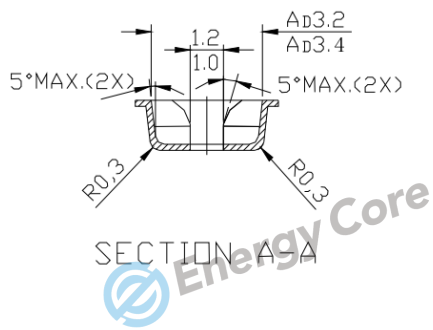
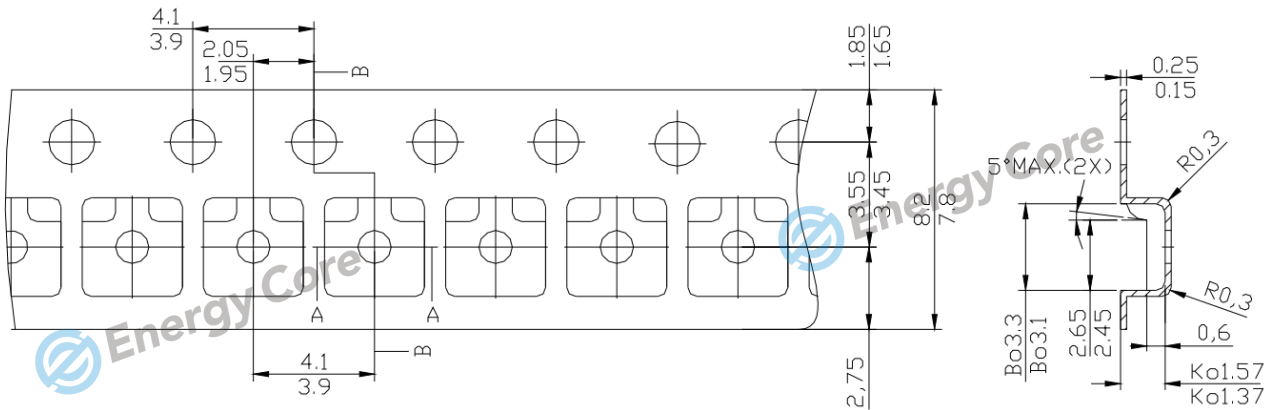
YR Package (TSOT23-3)



DR Package (TO-92S-3)



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