

Driving Green Solutions

Hall-Effect Sensors Latch & Switch IC Portfolio

Quick Reference

Rev.005, June 2010

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Table 1. General Purpose Latch & Switch - Quick Selector

Type		Part Number	Sensitivity	B _{OP} / B _{RP} (typical)	Supply Voltage	Operating Temperature		Output Type	Integrated Protection ⁽¹⁾		Package & Pole Active ⁽²⁾			Remark
			⁽³⁾	mT ⁽⁴⁾	V	-40~85°C	-40~150°C		RVP	OCL	TSOT	UA	UTQFN	
Latch Bipolar Switch	NEW	MLX92211	Very High	+/- 3	2.7~24		✓	Open Drain	✓	✓	S			TC = -1000ppm/degC, UnderVoltage LockOut, Output Auto-ShutOff, Thermal ShutDown, TSOT "die-up"
		US1881	High	+/- 5	3.5~24	✓	✓	Open Drain			N	S		
		US1882	Low	+/- 20	3.5~24		✓	Open Drain				S		
	NEW	US1883	Medium	+/- 14	3.5~24		✓	Open Drain				S		
		US2881	Very High	+/- 3	3.5~24	✓	✓	Open Drain			N	S	S	
		US2882	Very High	+/- 3	3.5~24	✓	✓	Open Drain			N	S		
		US2884	Very High	+/- 3	3.5~24		✓	Open Drain			S			
		US3881	High	+/- 5	2.2~18	✓	✓	Open Drain			N	S		
		US4881	Very High	+/- 3	2.2~18	✓	✓	Open Drain			N	S	S	
Unipolar Switch	NEW	US5681	High	3.5 / 5.5	3.5~24	✓		Open Drain			S			
	NEW	US5682	High	3.5 / 5.5	3.5~24	✓		Open Drain			S(*)			(*) - Reversed output polarity vs. US5681
		US5781	Medium	7.5 / 12	3.5~24	✓	✓	Open Drain			N	S		
		US5782	Medium	7.5 / 12	3.5~24	✓	✓	Open Drain			S			
		US5881	Low	20 / 25	3.5~24	✓	✓	Open Drain			N	S		

For more detailed information about the device performance, please refer to the latest datasheet revision available on our website or contact our sales force.

¹ RVP = Reverse Voltage Protection; OCL = Output Current Limit

² Pole Active = magnetic pole needed to be applied on the branded side of the package to turn the output low or active

³ Sensitivity referred to B_{OP} max value : Very High < 6mT; High < 10mT; Medium < 20mT; Low > 20mT

⁴ 1mT = 10 Gauss



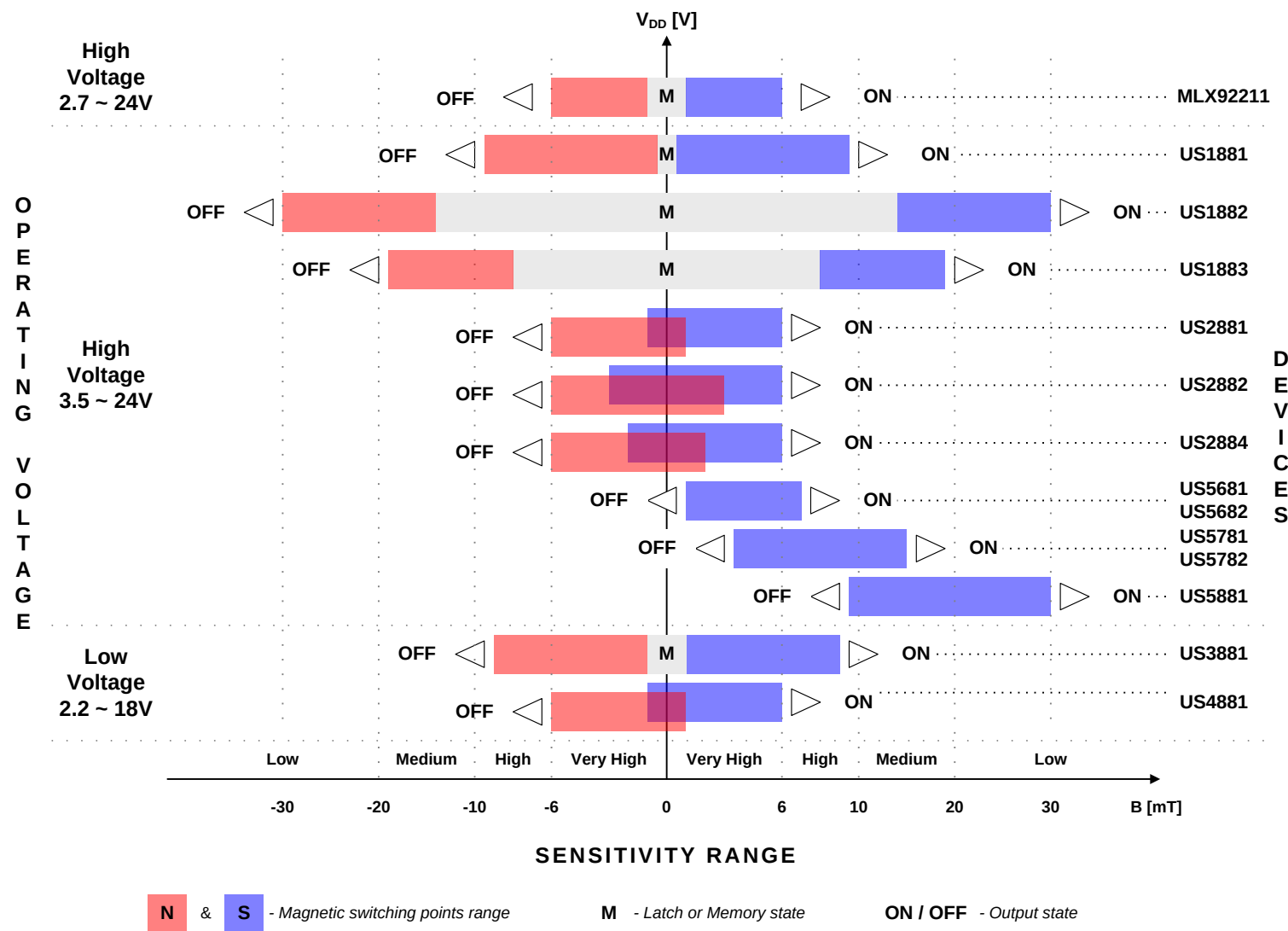


Figure 1. General Purpose Latch & Switch Graph Selector by Operating Voltage and Magnetic Sensitivity

Table 2. General Purpose Dual Latch - Quick Selector

Type		Part Number	Sensitivity	B _{OP} / B _{RP} (typical)	Hall Plate Spacing	Supply Voltage	Operating Temperature	Output Types	Available Output Option ⁽¹⁾		Integrated Protection ⁽²⁾		Package & Pole Active ⁽³⁾		Remark
				mT ⁽⁴⁾	mm	V	°C		SP + DIR	H ₁ + H ₂	RVP	OCL	TSOT	VA	
Dual Latch	NEW	MLX92251	Medium	+/- 7	1.45	2.7~24	-40~150	Open Drain	✓		✓	✓	S		Flat TC Output Auto-ShutOff UnderVoltage LockOut
		MLX90224	Very High	+/- 2.5	1.85	4.5~16	-40~150	Open Drain	✓	✓				S	

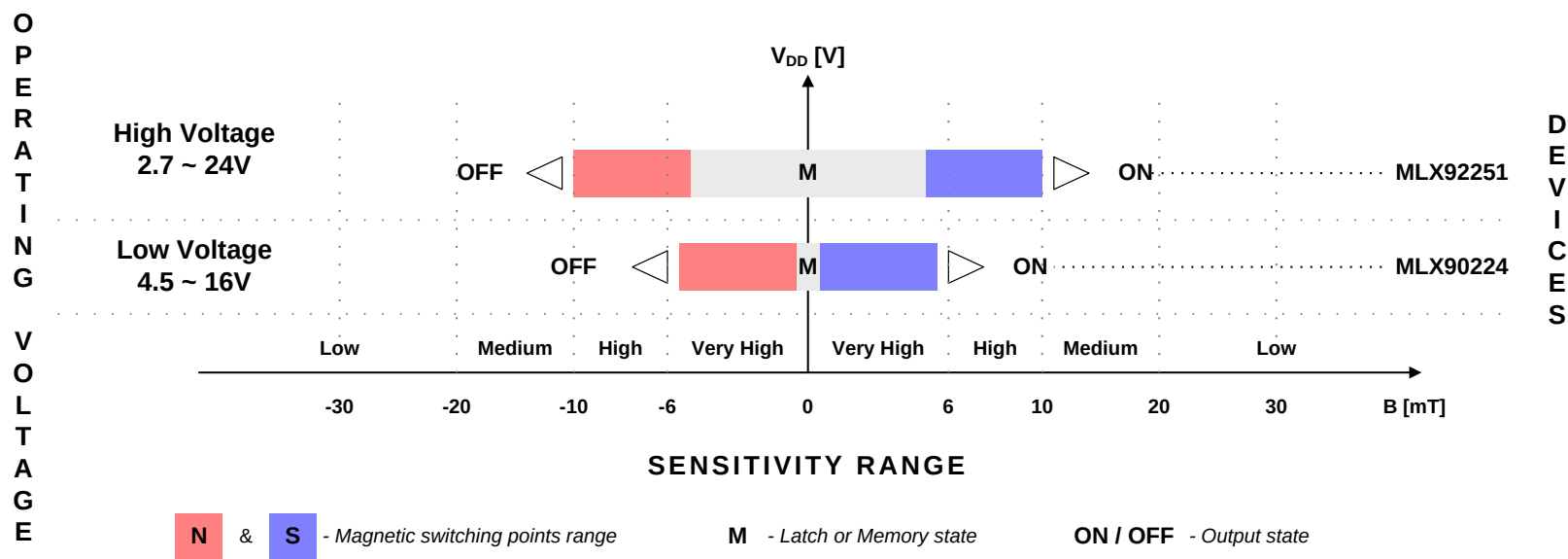


Figure 2. General Purpose Dual Latch Graph Selector by Operating Voltage and Magnetic Sensitivity

¹ SP + DIR = Speed (Hall 1) + Direction signals; H₁ + H₂ = Hall 1 + Hall 2 signals

² RVP = Reverse Voltage Protection; OCL = Output Current Limit

³ Pole Active = magnetic pole needed to be applied on the branded side of the package to turn the output low or active

⁴ 1mT = 10 Gauss

Table 3. Low Power / Energy-Saving Latch & Switch - Quick Selector

Type		Part Number	Supply Voltage	Current Consumption	Sensitivity	B _{OP} / B _{RP} (typical)	Output Refresh Period	Operating Temperature	Output Type	Package & Pole Active ⁽³⁾		Remark
			V	Average		mT ⁽⁴⁾	ms	°C		TSOT	UTQFN	
Latch		MLX92213	1.6~3.6	48µA @3V 36µA @1.8V	Ultra High	+/- 2	1.3	-40~85	Push-Pull		S	Advanced power manageability through EN pin
Omnipolar Switch		MLX90248 <i>New Generation</i>	1.5~3.6	5µA @3V 3µA @1.8V	Very High	3.5 / 2.5	40	-40~85	Open Drain	N & S	N & S	
	NEW	MLX90248-P	1.5~3.6	5µA @3V 3µA @1.8V	Very High	3.5 / 2.5	40	-40~85	Push Pull	N & S		
		MLX90248-H	3.5~5.5	25µA @5V	Very High	3.5 / 2.5	25	-40~85	Open Drain	N & S		

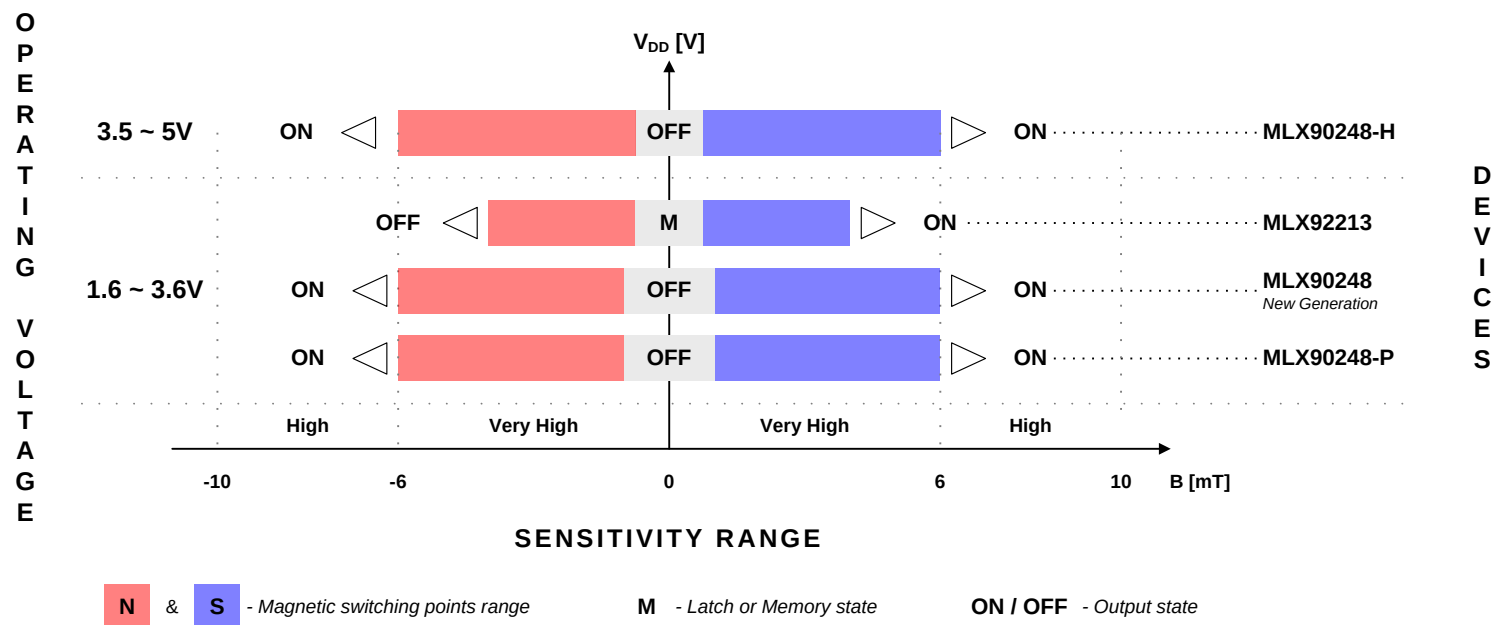
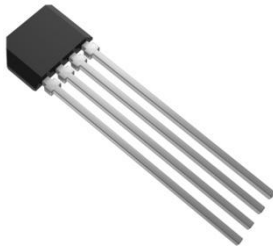


Figure 3. Low Power / Energy-Saving Latch & Switch Graph Selector by Operating Voltage and Magnetic Sensitivity

Table 4. Package pictures

	Visual Appearance		Green Compliance
Through-Hole Package	 UA Package <i>TO92-3L flat</i>	 VA Package <i>Thin TO92-4L flat</i>	✓
Surface Mount Package	 SE Package <i>TSOT-3L</i>	 SE Package <i>TSOT-5L</i>	✓
Chip Size package	 LD Package <i>UTQFN-6L</i>		✓

For more information concerning environmental compliance (RoHS, Green, Halogen Free,...), please consult www.melexis.com/Environmental.aspx



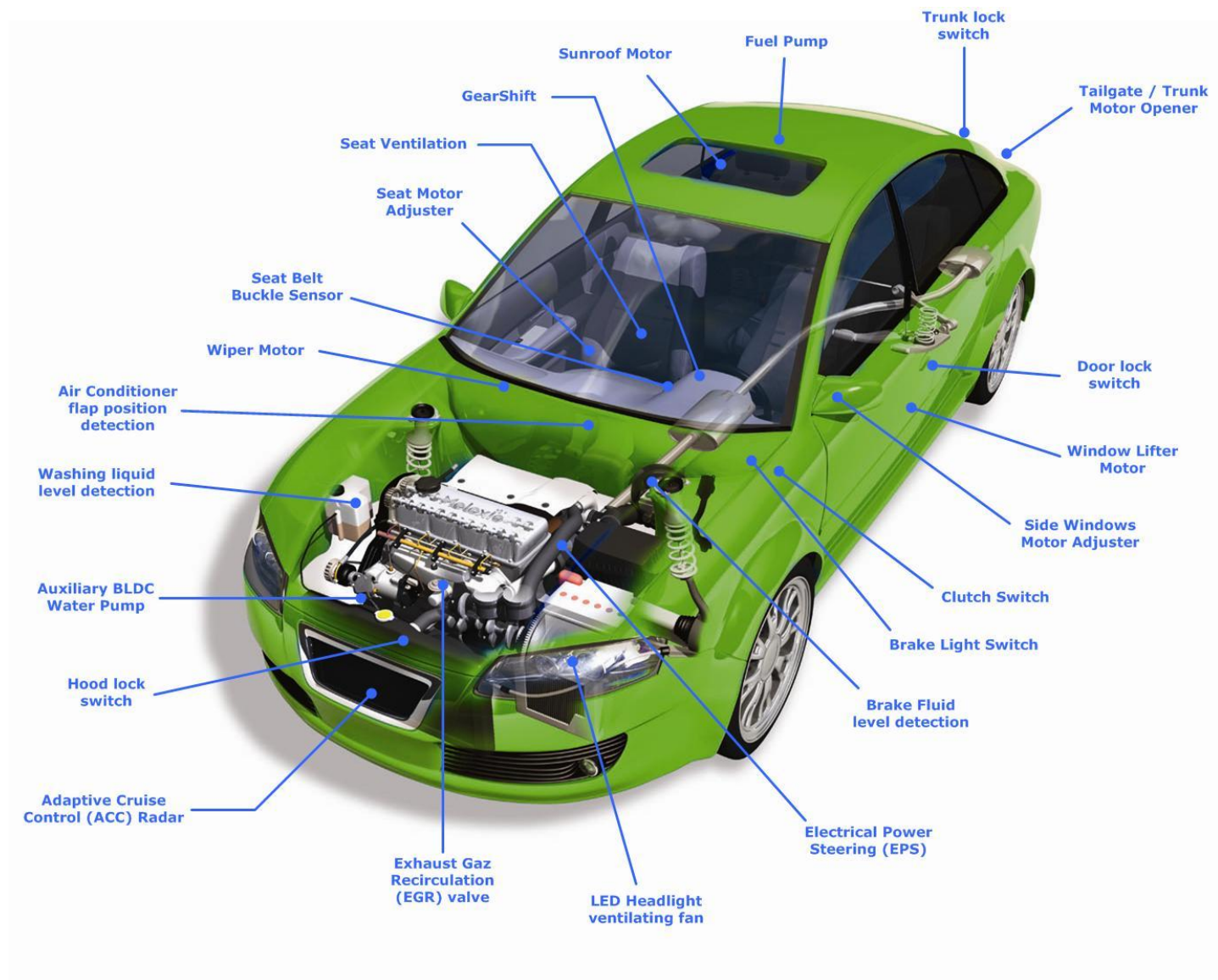


Figure 4. Hall-Effect Latch & Switch Automotive Application Examples

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