



Robust, reliable
analog solutions

Smart High-Side Switches

eXtreme Switch: N-channel MOSFET switches with embedded protection and diagnostics and low on-resistance ranging from 2 to 50 milliohms per channel.

TARGET APPLICATIONS

- ▶ 12 and 24 volt automotive lighting
- ▶ 12 and 24 volt automotive DC motor control
- ▶ Low-voltage industrial lighting
- ▶ Low-voltage factory automation
- ▶ Actuator controls
- ▶ Off-road equipment
- ▶ DC motors
- ▶ Fuse and Relay replacement

OVERVIEW

The eXtreme switch portfolio contains a wide breadth of products for automotive and industrial applications, offering low on-resistance, SPI, control and diagnostics for 12, 24 and 32 volt applications.

These smart high-side switches combine flexibility through programmable SPI, and robust designs through embedded protection and extended digital and analog feedback.

FEATURES & BENEFITS

- ▶ Programming, control and diagnostics through a SPI communication interface with daisy chain capability
- ▶ Fail-safe operation mode
- ▶ Optimized fault protection
- ▶ PWM module with programmable outputs, shape and delay management
- ▶ Very low standby current
- ▶ Embedded reverse battery protection
- ▶ Functional and electrical compatibility between family members
- ▶ Excellent thermal efficiency, low on-resistance switching
- ▶ BOM component and cost savings
- ▶ Software simplification in case of multiple load management
- ▶ Analog diagnostics with high precision for advanced monitoring



AUTOMOTIVE

12 Volt Family Devices									
Family	Part Number	Outputs # and On-Resistance	Total Outputs #	Operating Voltage (V)	Max. Continuous Current (A)	Max. PWM Frequency	Pin-to-Pin Compatibility	Software Compatibility	Package
12XS3	MC07XS3200	Dual 7 mΩ	2	6-20	21	800 Hz	-	√	32-pin SOICEP
	MC10XS3425	Dual 10 mΩ, Dual 25 mΩ	4	6-20	19-9	800 Hz	-		32-pin SOICEP
	MC10XS3412	Dual 10 mΩ, Dual 12 mΩ	4	6-20	19	1 kHz	√		24-pin PQFN
	MC10XS3435	Dual 10 mΩ, Dual 35 mΩ	4	6-20	19-9	1 kHz			24-pin PQFN
	MC15XS3400	Quad 15 mΩ	4	6-20	19	1 kHz			24-pin PQFN
	MC35XS3400	Quad 35 mΩ	4	6-20	9	1 kHz			24-pin PQFN
	MC09XS3400	Quad 9mΩ	4	6-20	21	800 Hz			24-pin PQFN
	MC10XS3535	Triple 10 mΩ, Dual 35 mΩ	5	7-20	12-6	400 Hz			24-pin PQFN
	MC35XS3500	Penta 35 mΩ	5	7-20	6	400 Hz			24-pin PQFN
	MC06XS3517	Triple 6 mΩ, Dual 17 mΩ	5	7-20	17-9	400 Hz			24-pin PQFN
12XS6	MC07XS6517	Triple 7 mΩ, Dual 17 mΩ	5	7-18	18-9	400 Hz	√	√	54-pin SOICEP
	MC17XS6500	Penta 17 mΩ	5	7-18	9	400 Hz			32-pin SOICEP
	MC40XS6500	Penta 40 mΩ	5	7-18	6	400 Hz			32-pin SOICEP
	MC08XS6421	Dual 08 mΩ, Dual 21 mΩ	4	7-18	18-9	400 Hz			32-pin SOICEP
	MC17XS6400	Quad 17 mΩ	4	7-18	9	400 Hz			32-pin SOICEP
	MC25XS6300	Triple 25 mΩ	3	7-18	8	400 Hz			32-pin SOICEP
	MC10XS6325	Dual 10 mΩ, Single 25 mΩ	3	7-18	16-8	400 Hz			32-pin SOICEP
	MC10XS6200	Dual 10 mΩ	2	7-18	16	400 Hz			32-pin SOICEP
MC10XS6225	Single 10 mΩ, Single 25 mΩ	2	7-18	16-8	400 Hz	32-pin SOICEP			
24 Volt Family Devices									
24XS4	MC06XS4200	Dual 6 mΩ	2	8-36	15	1 kHz	√	√	23-pin PQFN
	MC10XS4200	Dual 10 mΩ	2	8-36	9	1 kHz			23-pin PQFN
	MC20XS4200	Dual 20 mΩ	2	8-36	4.5	1 kHz			23-pin PQFN
	MC22XS4200	Dual 22 mΩ	2	8-36	4	1 kHz	√	√	32-pin SOICEP
	MC50XS4200	Dual 50 mΩ	2	8-36	1.5	1 kHz			32-pin SOICEP
Main Switch Devices									
12XS2	MC33981	Single 4 mΩ	1	6-27	75	60 kHz	-	-	16-pin PQFN
	MC33982	Single 2 mΩ	1	6-27	41	1 kHz	√	√	16-pin PQFN
	MC33984	Dual 4 mΩ	2	6-27	21	1 kHz			16-pin PQFN
	MC33988	Dual 8 mΩ	2	6-27	10.5	1 kHz			16-pin PQFN

INDUSTRIAL

32 Volt Family Devices									
32XSG	MC07XSG517EK	Triple 7 mΩ, Dual 17 mΩ	5	7-30	18-9	400 Hz	√	√	54-pin SOICEP
	MC17XSG500EK	Penta 17 mΩ	5	7-30	9	400 Hz			32-pin SOICEP