



Analogue solutions  
for robust, reliable  
performance

# Advanced Analogue Products for Automotive and Industrial Markets

Category	Device	Description	Auto*	Indus**	Cons***
Smart High Side Switches	MC33981	High current and high frequency 30 A/27 V, 60 kHz, 4 mΩ high-side switch with protected half bridge configuration enabling up to a 25% board area reduction and module simplification	X		
	MC33982/4/8	Self-protected multipurpose single 2 mΩ, dual 4 mΩ or 8 mΩ low RDS(on) SPI-driven high side switches for flexible load management from 7 A to 30 A	X		
	24XS4	Scalable, programmable family of 24 A/36 V SPI-driven, dual-channel, smart high-side switches from 6-to-50 mΩ RDS(on) for up to a 30% board reduction, and optimum for dense high-current switching applications	X		
	12XS6	Scalable family of 22 A/18 V programmable penta, quad and triple high-side switches from 7-to-40 mΩ RDS(on) with wide-range diagnostic current sensing for up to 30% smaller PCB and 50% lower component count	X		
	MC33XS2410	Quad 100 mΩ or dual 50 mΩ high side driver, 4 x 1.4 A DC current, operating from 3V to 60V, SPI-driven, fully programmable with wide-range diagnostic (short circuit current limit, over load protection, open load detection ...), PWM signal and programmable dither signal for proportional solenoid valve	X		
LED Drivers	ASL1500/2500/ 4500/4501 ASL1507/2507	Scalable series of 1, 2 and 4 phase boost converters with integrated SPI, diagnostic, up to 2 flexible and independent output voltages (<80 V) with 3% accuracy, external FETs and adjustable DC/DC converter frequency (125-700 kHz) with or without limp home mode	X		
	ASL2416/3416 ASL2417/3417	2 and 3 multi-channel buck converters with integrated SPI, diagnostic, programmable LED current per channel up to 1.5 A with 5% accuracy, LED output voltage range up to 70V, external FETs and PWM dimming from 0 to 100% with or without limp home mode	X		
	ASL5008/5015	Matrix LED controller for up to 12 single LEDs or 4 segments of 3 switches, 0.8 A or 1.5 A per switch capability, 12 bit resolution, on-chip storage of preprogrammed PWM curves, single LED open/short detection, CAN interface option allowing to connect up to 32 Matrix LEDs Controllers together	X		
Smart Low Side Switches	MC33882	Smart 6-output low-side switches able to control loads up to 1.0 A, daisy chainable SPI and parallel inputs control with PWM capability on all outputs	X		
	MC33880/79	Configurable 8-output serial switches for load control up to 2.0 A with SPI, up to 2 direct control outputs for PWM applications and very low standby current, including monitoring and protection features	X		
	MC33996/99	16-output low-side switches able to control loads up to 2.5 A, daisy chainable SPI with or without parallel inputs mode for PWM capability on all outputs	X		
Valve Drivers	MC33SB0400/01	One-wheel, two-wheel motorcycle ABS integrated device allowing heatsink removal	X		
	MC34SB0800/410	Fully integrated octal, quad valves and pump controller SoC solutions with SPI, PWM up to 5 kHz (5.0 A), real-time valve current regulation (2.25 A – 2% precision w/ calibration) and integrated safe MOSFET to switch off all valves at once		X	
Power Drivers	MPC17510/29/31 MPC17C724/ MC34933	Low operating voltage (2V to 15V) monolithic single and dual H-Bridge for portable applications designed with low quiescent, integrated protection and diagnostics, 1 A output drive and PWM control input frequency up to 200 kHz capabilities		X	
	MC33931S/2S	Medium operating voltage (5 V to 36 V) monolithic single and dual 5A H-Bridge power ICs designed for harsh environments with selectable slew rate control, PWM up to 20 kHz, integrated protection and diagnostics	X	X	
	MC33HB2000/1/2	3.0 A H-Bridge motor driver (5 V to 28 V) with SPI control, low RDS(on) outputs (235 mΩ or 120 mΩ), PWM up to 35 kHz, daisy chainable, real-time current mirror and available in 32 lead SOIC, PQFN and QFN packages	X		
Gate Drivers	MC33937/ MC33GD3000	3-phase high current FET pre-driver (> 1 A) with extended voltage range (6 V to 58 V), PWM (> 20 kHz), robust fault monitoring and failure protection for industrial brushless DC motor control (BLDC)	X		
	MC33883	H-Bridge gate driver with charge pump, independent high and low side gate driver channels, PWM up to 100 kHz and up to 1.0 A peak gate driver current	X		
	MC33GD3100	Advanced gate driver (<10 A) for high-voltage power IGBTs with integrated high-voltage isolator, SPI interface, safety functions compliant with ASIL D applications and current sense feedback	X		
Small Engine Control	MC33812/3/4	Electronic fuel injection with diagnostics for air pollution and fuel consumption environmental legislation. Euro 3/ 4 for up to 2 cylinders, Euro 5 & OBDII for 1 cylinder. 2 O <sup>2</sup> heater pre-drivers	X		



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Networking	TJA1057G/TJA1044G	Basic/Standby mode CAN FD transceivers with optional 3.3 V VIO pin; supporting data rates up to 5 Mbit/s; 42 V CAN bus robustness; available in SO8 and HVSON8 packages	X		
	TJA1051/42/43/59	Basic/Standby/Dual Standby/Sleep mode CAN FD transceivers with optional 3.3 V VIO pin; supporting data rates up to 5 Mbit/s; 58 V CAN bus robustness; available in SO8/14 and HVSON8/14 packages	X		
	TJF1051			X	
	TJA1441/42/43/48	Basic/Standby/Dual Standby/Sleep mode CAN FD transceivers with optional 3.3 V VIO pin; supporting CAN FD data rates up to 5 Mbit/s; 40 V CAN bus robustness; AEC-Q100 Grade 1 qualified; available in SO8/14 and HVSON8/14 packages	X		
	TJF1441			X	
	TJR1441/42/43/48	Basic/Standby/Dual Standby/Sleep mode CAN FD transceivers with optional 3.3 V VIO pin; supporting CAN FD data rates up to 5 Mbit/s; 40 V CAN bus robustness; AEC-Q100 Grade 0 qualified; available in SO8/14 and HVSON8/14 packages	X		
	TJA1462/63	Standby/Sleep mode CAN FD transceiver with Signal Improvement Capability (SIC) technology for signal ringing reduction; supporting data rates up to 8Mbit/s; 40 V CAN bus robustness; AEC-Q100 Grade 1 qualified; available in SO8/14 and HVSON8/14 packages	X		
	TJR1462/63	Standby/Sleep mode CAN FD transceiver with Signal Improvement Capability (SIC) technology for signal ringing reduction; supporting data rates up to 8Mbit/s; 40 V CAN bus robustness; AEC-Q100 Grade 0 qualified; available in SO8/14 and HVSON8/14 packages	X		
	TJA1145A	Sleep mode CAN FD transceiver with Partial Networking "selective wake-up" functionality; supporting data rates up to 5 Mbit/s; 58 V CAN bus robustness; available in SO14 and HVSON14 packages	X		
	TJA1052i	Standby mode CAN FD transceiver with integrated galvanic isolation for high-voltage applications; supporting data rates up to 5 Mbit/s; available in 2.5 kV and 5 kV (RMS) variants; available in SO16 package	X		
	TJF1052i			X	
	TJA1021/27/29	Single and Multi-channel LIN 2.x/SAE J2602 compliant LIN transceivers available in multiple package options	X		
	TJA1022/24		X		
	TJA1124	Quad channel LIN 2.x/SAE J2602 transceiver with optional integrated LIN controller (SJA1124) and LIN master termination (1 K $\Omega$ +/- 10% or 955 $\Omega$ +/-5.5%); SPI controlled; Sleep mode and wake-up features	X		
	SJA1124		X		
	TJA1081G/TJA1083G	Standby/Sleep mode FlexRay node transceivers; ISO17458-4:2013 and EPL V3.0.1 compliant; available in (T)SSOP14/16 package	X		
	TJA1085G/TJA1086G	FlexRay Active Star Coupler; ISO17458-4:2013 and EPL V3.0.1 compliant; Possibility to connect up to 2 or 4 branches; available in HVQFN44 package	X		
	TJA1101	Single / Dual low power 100BASE-T1 Ethernet PHY over unshielded twisted pair cable; ASIL-A compliant; available in QFN package	X		
	TJA1102(S)		X		
	SJA1105P/Q/R/S	5-Port Ethernet switch; supporting 10/100/1000 Mbit/s data rates; AVB and TSN support; SGMII interface; RGMII internal delay line; double VLAN tagging support	X	X	
MC33664	2 Mbit/s isolated network high-speed transceiver with dual SPI architecture to conveniently interface a microcontroller up to 15-node system with battery cell controller devices MC33771/MC33772	X			
CD1020/30	36 V analog switch interface multiplexer: translates up to 33 I/Os onto a single MCU SPI bus with very low quiescent current, configurable wetting currents (from 2 mA to 20 mA, integrated temperature and supply sensors	X	X		
OL2385	Sub-GHz transceiver system-on-chip radio solution with pre-loaded modem solution supporting SigFox protocol		X		
Energy Management	MC33771/2	3 to 14-cell Li-ion Battery Cell Controller compatible for 5 V up to 1000 V packs with 2 Mbits/s transformer coupled daisy chain transceivers, 300 mA passive cell balancing and shunt current sensor	X		
	MM912_637/ MM921_638	16-bit integrated MCU with 3 x 16-bit ADC for precision lead acid and Li-ion battery monitoring solutions with low system power consumption for mission-critical applications up to 52 V and higher voltage battery pack monitoring	X		
	MC34671/3/4	Scalable high-voltage linear chargers for single cell Li-ion and Li-Polymer batteries. Up to 1.2A charge current, accurate to 0.4% in constant voltage and 5% in constant current. Available in LDFN package		X	
Power Management	TJA1028	LIN mini SBC in an SO8 or HVSON8 package integrating a LIN 2.x/SAE J2602 compliant LIN transceiver and a 5V or 3V3 LDO with 70 mA output current capability	X		
	TJA1128	LIN mini SBC in an HVSON14 package integrating a LIN 2.x/SAE J2602 compliant LIN transceiver, with one time configuration via temporary SPI feature, 1 high voltage output, 1 wake input, and a 5 V or 3V3 LDO with 85 mA output current capability as well as optional watchdog and 2nd wake input	X		
	UJA116x/69	Mini SBC product family, with 5V/100 mA LDO, integrated HS-CAN and support for CAN FD up to 2 Mbps. HVSON package with SPI interface and Watchdog. Versions available with partial networking and CAN FD passive support	X		
	UJA116xA/69A	Mini CAN SBC product family, with 3.3 V or 5 V / 250 mA LDO, integrated HS-CAN and support for CAN FD up to 5 Mbps. HVSON package with SPI interface and Watchdog. Versions available with partial networking and CAN FD passive support	X		
	UJA107xA, MC33903/4/5	Mid-range SBC product family including versions with 1 HS-CAN or 1 HS-CAN & 1/2 LIN. Integrated 3.3V / 5V LDO up to 400 mA with external PNP for thermal distribution. Integrated SPI interface, watchdog function and local Wake inputs	X		
	UJA113x	High power SMPS-based SBC product family with Buck-only or Buck-Boost versions, in QFP48 package. Output voltage 3.3 V / 5 V up to 500 mA and integrated Vaux sensor supply. Integrated HS-CAN with CAN FD 2 Mbps support and up to 4 LIN. Versions available with Partial Networking and CAN FD passive support	X		
	MC33FS45xx/FS65xx MC33FS45xx/FS65xx	36 V System Basis Chip with energy-efficient DC/DC power conversion up to 2.2 A (2.0 A on Vpre) and low-voltage operation with configurable advanced fail silent behavior, long duration timer, keep alive memory supply and optional integrated CAN FD transceiver; Compliant with AEC-Q100 Grade 0 automotive qualification (Tj=175°C)	X		
	MMPF0100/200	Economic quick-turn system power management solutions, up to 14-channel, 11.7 A, fully configurable voltages, sequencing and timing optimized for use with i.MX 6 series applications processors	X	X	X
	MC33PF3000/1	Quick-turn programmable 12-channel, 7.3 A system power management solutions with fully configurable voltage, sequencing and timing optimized for use with i.MX 7 and i.MX 6 series applications processors, in a 7x7 mm package	X	X	X
	MC34PF1510/50	Ultra-low-power programmable 6-channel, 4 A system power management solutions with LED driver, JEITA temperature control and 1 A linear battery charger for i.MX 7ULP, i.MX 6UL/ULL applications processors in a 5x5 mm QFN-EP package		X	X
	MC34PF4210	Quick-turn programmable 12-channel, 12.7 A system power management solutions optimized for use with i.MX 8MQ and i.MX 8MD applications processors available in a 8x8 QFN wettable flank package		X	X
	MC33PF8100/1/21 MC33PF8200/1	Scalable, safe, programmable 11-channel, 19.1 A system power management solutions optimized for use with i.MX 8 and i.MX 8X series applications processors available in a 8x8 mm QFN-EP package	X	X	X
	MC34VRS500/VRS100	9-Channel PMIC, optimized to work with Layerscape networking processor systems (LS1021A, LS2024A, LS1043A, LS1046/47A), with custom pre-programmed output voltages, sequencing, timing in a 7x7 mm QFN package		X	
MC33VRS500 MC33FS84/85	System Basis Chips scalable in power and safety (from QM up to ASIL-D) targeting 12 & 24 V applications such as infotainment (V2X) and ADAS (Vision, Radar) with power up/down configurable, static voltage scaling with SPI or PC communication	X			