

# Design Resources - Automotive ESC System

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## Design Resources

## Application Notes

Supplier	Device	Title	Date Published
Infineon	TLE6365	<a href="#">TLE6365 Application Circuit Layout- and EMC Filter Design</a>	--
Atmel		<a href="#">Automotive Grade0 - PCB and Assembly Recommendations</a>	--
Freescale		<a href="#">Designing for Electromagnetic Compatibility with Single-Chip Microcontrollers</a>	--
Freescale		<a href="#">Designing for Electromagnetic Compatibility (EMC) with HCMOS Microcontrollers</a>	--
Renesas		<a href="#">Controller Area Network (RCAN-ET) Application Note</a>	July/07
Renesas	HA13721	<a href="#">M16C/29 Group CAN Demo Set Program</a>	Oct/05
Renesas	SH7055F	<a href="#">The interface circuit between SH7055F and</a>	--

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		F-ZTAT programming adapter board	
Renesas	SH7055	SH7055 On-Chip I/O Volume Application Note	--
Renesas		Introduction to CAN	Apr/06
Renesas	H8S/2378F	Flash Development Toolkit Application Note	Jun/06
ST		EMC Design Guide for ST Microcontrollers	Oct/03
ST	ST10F27x	Programming ST10F27x CAN interrupt drivers	Oct/07
Freescale	S12XS	Using the S12XE Family as a Development Platform for the S12XS Family	July/07
Freescale	S12XE	Debugging XGATE Code Debug Features of S12X(E) MCUs	May/07
Freescale		XGATE Library: CAN Driver Providing a Full CAN Mailbox System	Apr/06
Freescale	MPC5500	Power Supplies on the MPC5500	July/07
Freescale	MPC5xx	OSEKturbo OS/MPC5xx V.2.2.1 User's Manual	Jun/03
Microchip		A CAN Physical Layer Discussion	--
Microchip		Ease into the Flexible CANbus Network	--
NXP	TJA1040	TJA1040 CAN Hig-Speed Transceiver	Feb/03
Infineon		High speed CAN Transceivers Application Note	Jan/06
Freescale		How to Configure and Use the XGATE on S12X Devices	Mar/03
Freescale		Servo Motor Control Application on a Local Interconnect Network (LIN)	Dec/05
Freescale		S12XD and S12XE Family Compatibility	July/07
Freescale	MFR4200	Interfacing HCS12 Microcontrollers to the	Feb/06

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		MFR4200 FlexRay Controller	
Freescale	MFR4310	Migrating from MFR4200 to MFR4310	May/07
Freescale	MPX2300DT1	Mounting Techniques, Lead Forming, and Testing of the MPX Series Pressure Sensors	May/08
Fairchild	FDMS2380	Using the FDMS2380 Dual Integrated Solenoid Driver	--
Fairchild		Smart Power Module Motion-SPM in Mini-DIP User's Guide	July/05
Infineon	XC886/888	XC886/888 CM/CLM 8-Bit Flash Microcontroller Sensorless Field Oriented Control for MSM Motors	--
Renesas	SH7216	Controller Area Network, Configuration to Transmit Data Frames	July/09
Renesas	SH7216	Controller Area Network Configuration to Receive Data Frames	July/09
Renesas	SH7216	Controller Area Network Configuration to Receive Remote Frames	July/09
Renesas	SH7216	Controller Area Network Configuration to Transmit Remote Frames	July/09
Renesas	R8C/11	Control of a Brushless DC Motor	Aug/04
IR	IR331x	Programmable High Side Current Switch	--
IR	IPS10xx	Features of the Low-Side Family IPS10xx	--
IR	IPS60xx	Features of the high-side family IPS60xx	--
IR	IR331x	Current Sensing High Side Switch	--
IR		Features of the high-side family IPS70xx-P3-75V	--
Infineon	XC164CM	LIN Application for XC164CM Using Dave LIN Configurationtool	Feb/07

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Renesas	SH7046	<a href="#">SH7046 Group DC Brushless Motor Control</a>	Sep/03
Renesas	SH7046	<a href="#">SH7046 Group DC Motor Control Signal Output</a>	Sep/03
Renesas	SH7144/45	<a href="#">SH7144/45 Group DC Motor Control Signal Output</a>	Sep/03
Renesas	3858	<a href="#">3858 Group PWM Function (Motor Control)</a>	Aug/06
Renesas	H8S/2200	<a href="#">H8S/2200 Series Application Note DC Motor Control Processing Using PWM</a>	Sep/04
ST	L6205	<a href="#">L6205, L6206, L6207 Dual Full Bridge Drivers</a>	Dec/03
ST		<a href="#">PractiSPIN evaluation system configuration and set up guide</a>	Jan/08
ST	L6226	<a href="#">EVAL6226QR demonstration board using a dual full-bridge L6226Q for motor control applications</a>	Jan/09
ST	L6227	<a href="#">EVAL6227QR demonstration board using a dual full-bridge L6227Q for motor control applications</a>	Jan/09

## Design Tips & Tricks

Supplier	Device	Design Tips & Tricks Title	Date Published
Infineon	TLE 6251 G	<a href="#">High speed CAN Transceivers Application Note</a>	Jan/06
Freescale	CPU12/CPU12X	<a href="#">CPU12/CPU12X Reference Manual</a>	Mar/08
IR	IR3220S	<a href="#">H-Bridge Controller IC for Automotive DC Motors</a>	--
Freescale	S12XE	<a href="#">S12XE IPLL Calculator</a>	Jan/09

IR		<a href="#">Intelligent Power Switches (IPS): Operation in an Automotive Environment</a>	--
IR	IR2x771	<a href="#">Accurate Current Sensing in High Voltage Motor Drives</a>	--
IR	IPS54XX	<a href="#">Intelligent Power Switch (IPS) Switching &amp; Diagnostic Capabilities</a>	--
IR	IPS511	<a href="#">Intelligent Power Switches (IPS): Basic Features &amp; Protection</a>	--
Microchip	MCP2515	<a href="#">Ease into the Flexible CANbus Network</a>	--

## Evaluation Kits

Supplier	Device	EVKs Part Number	Evaluation Kits Info	Date Published
ST	STM3210C-SK/KEIL	STM3210B-SK/KEI	<a href="#">STM32-SK/KEIL STR91X-SK/KEI, STR7-SK/KEIL starter kits for ST ARM core-based microcontrollers</a>	--
Freescale	XPC560P	XPC560P EVB	<a href="#">XPC560P EVB User Manual</a>	June/08
Freescale	MC56F8006	MC56F8006DEMO-T	<a href="#">MC56F8006DEMO-T Quick Start Guide</a>	--
Freescale	9S12XF512E	EVB9S12XF512E	<a href="#">EVB9S12XF512E Quick Start Guide</a>	Sep/07
Freescale	9S08LG32	DEMO9S08LG32	<a href="#">DEMO9S08LG32— Quick Start Guide</a>	Sep/07
Freescale	9S08SH8/EL32	DEMO9S08SH8/EL32 demo board	<a href="#">DEMO9S08SG32/EL32 LIN Application User Guide</a>	--
Freescale	9S12XEP100	DEMO9S12XEP100	<a href="#">Demo Board for Freescale MC9S12XEP100</a>	--
Microchip	MCP2515	MCP2515DM-PCTL	<a href="#">MCP2515 CAN Controller PICtail Demo Board</a>	--

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Microchip	PIC18C658	PICDEM™ CAN-LIN 1 Development Kit	PICDEM™ CAN-LIN Development Kit User's Guide	--
Renesas	M16C/29 HA13721	M16C/29 starter kit	M16C/29 Group CAN Demo Set Program	Oct/05
Fujitsu	MB89940	Demoboard for MB89940	Demoboard for MB89940	--
Infineon	TLE7241E	TLE7241E Evaluation Board	TLE7241E Evaluation Board Constant Current Control IC	Jun/06
Infineon	TLE7242G	TLE7242G Evaluation Board	TLE7242G Evaluation Board 4 Channel Fixed Frequency Constant Current Control IC	Sep/06
Infineon	2ED3 0 0C1 7 -S/ -ST	2ED300E17-SFO	Evaluation board for 2ED300C17-S /-ST IGBT driver	May/07
Infineon	TLE 8201R	TLE 8201R Evaluation Board	TLE 8201R Evaluation Board	--
Fairchild	Motion-SPM	FAN2103	Motor Control Evaluation Board Using the Motion-SPM in a DIP Package	--
ST	L9349		PTB801DC evaluation board for ABS valve drivers PTB801DC	May/09
Fairchild	FDMS2380	FDMS2380	FDMS2380 Device Evaluation Module	April/06
Fairchild	FEB154-001	FEB154-001	FEB154-001 User's Guide Motor Control Evaluation Board Using the Motion-SPM™ FSBB20CH60) in a Mini-DIP (29mm x 12mm) Package	--
Fairchild	FEB155-001	FEB155-001	FEB155-001 User's Guide Motor Control Evaluation Board Using the Motion-SPM™ (FSB50450)	--

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			in a Tiny-DIP (29mm x 12mm) Package	
Fairchild	FEB207-021	FEB207-021	FEB207-021 User Guide TinyBuck Integrated Synchronous Buck Evaluation Board	--
Fairchild	FEB156-001	FEB156-001	FEB156-001 User's Guide Motor Control Evaluation Board Using the Motion-SPM™ (FSB50450) in a Tiny-DIP (29mm x 12mm) Package	--
Infineon	XC886CM		CANmotion Evaluation Platform with BLDC Motor featuring XC886CM Flash Microcontroller	April/07
Infineon	XC886CM	KIT_AK_XC866_BLDC	12V – Brushless DC Drive Application Kit	--
Microchip	PIC18F6680		PICDEM™ CAN-LIN 3 Development Kit for 64/80-pin Enhanced CAN Devices User's Guide	--
ST	L6205	EVAL6205N	L6205, L6206, L6207 Dual Full Bridge Drivers	Dec/03
ST			PractiSPIN evaluation system configuration and set up guide	--
ST	L6226	EVAL6226QR	EVAL6226QR demonstration board using a dual full-bridge L6226Q for motor control applications	Jan/09
ST	L6227	EVAL6227QR	EVAL6227QR demonstration board using a dual full-bridge L6227Q for motor control applications	--

## PodCast

Supplier	PodCast Title
Microchip	<a href="#">An Introduction to Controller Area Network (CAN)</a>
Microchip	<a href="#">Brushed DC Motor Basics</a>
Microchip	<a href="#">EMC Part 1 Introduction to Electro Magnetic Compatibility (EMC)</a>
Microchip	<a href="#">EMC Part 2 What is Electrostatic Discharge (ESD)</a>
Microchip	<a href="#">EMC Part 3 What are Electrical Fast Transients (EFT)</a>
Microchip	<a href="#">EMI and ESD Protection for CAN bus</a>
Microchip	<a href="#">Sensorless BLDC Motor Control</a>

## Reference Design

Supplier	Device	Reference Design Title	Date Published
Infineon	TLE 6251 G	<a href="#">High speed CAN Transceivers Application Note</a>	Jan/06
Freescale	DSP56300	<a href="#">DSP56300 Family Manual</a>	Apr/05
Freescale	CPU12/CPU12X	<a href="#">CPU12/CPU12X Reference Manual</a>	Mar/08
IR	IR3220S	<a href="#">H-Bridge Controller IC for Automotive DC Motors</a>	--
Fairchild	FSAM20SM60A	<a href="#">Motor Control Evaluation Board Using the Motion-SPM in a DIP Package</a>	--
Fairchild	FEB155-001	<a href="#">FEB155-001 User's Guide Motor Control Evaluation Board Using the Motion-SPM™ (FSB50450) in a Tiny-DIP (29mm x 12mm) Package</a>	--
Fairchild	FEB156-001	<a href="#">FEB156-001 User's Guide Motor Control Evaluation Board Using the Motion-SPM™</a>	--

		(FSB50450) in a Tiny-DIP (29mm x 12mm) Package	
Infineon	XC886/888	FOC Application Kit using XC886/888 - CD download	--

## Spice Model

Supplier	Spice Model Title
IR	<a href="#">Spice Library</a>
IR	<a href="#">Saber Library</a>

## VideoStreaming

Supplier	VideoStreaming Title
TI	<a href="#">Automotive - Voltage Regulation in Automotive Electronic systems from TI 1</a>
TI	<a href="#">Automotive - Voltage Regulation in Automotive Electronic systems from TI 2</a>
Fairchild semi	<a href="#">FSFR2100 Fairchild Power Switch (FPS™) for Half Bridge Resonant Converters</a>

## WebCast

Supplier	WebCast Title
TI	<a href="#">Resonant DC/DC Developer's Kit Overview</a>
TI	<a href="#">How to Power an MCU</a>
Fujitsu	<a href="#">Fujitsu MCU e-Learning</a>
Renesas	<a href="#">CAN Basics: Part 1</a>
Renesas	<a href="#">CAN Basics: Part 2</a>

Fairchild Semiconductor	Electromagnetic Compatibility Design for Power Supplies
Infineon	Infineon Technologies' Controller Area Network (CAN) Technology
Infineon	Semiconductors - Enabling Technologies for Fuel Efficiency
Freescale	Overview of the S08 Slave LIN Interface Controller (SLIC) Module
Freescale	S08 Controller Area Network (msCAN)
Renesas	An Overview of M16C CAN API

## White Paper

Supplier	Device	White Paper Title	Date Published
Fujitsu		Next Generation Car Network - FlexRay	Jun/06
Freescale		Technologies For Optimized Power Management	Feb/06
Freescale		Automotive Control Systems FlexRay™ Protocol	--
Freescale		Freescale Advances into Multi-Market Analog and Power Management	--
Freescale	56F8300	Applications Enabled by High-Performance Hybrid Controllers	--
Freescale		Networking the FlexRay Way	--
Freescale		FlexRay Executable (Reference) Model	Aug/05
Freescale		In-Vehicle Networking	--
TI		Industrial Automation using the CAN Bus Platform White Paper	May/03
TI		Introduction to the Controller Area Network (CAN)	--

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ST		Introduction to CAN Controllers at ST	--
IR		Combined Device and System Simulation for Automotive Application Using SABER	--
IR		Power IC Protects Motor Drives	--
IR	IR3220S	Integrated Power H-Bridge Controller For 80-Watt Automotive DC Motors	--
IR	IR2x77	Accurate Current Sensing in High Voltage Motor Drives	--
IR	IRMCT3UF1	Sensorless Digital Motor Controller for High Reliability Applications	--
ROHM		Controlling DC Brush Motors with H-bridge Driver ICs	--