

Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: info@chipsmall.com Web: www.chipsmall.com

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China

KITUSBSPIEVME Evaluation Board

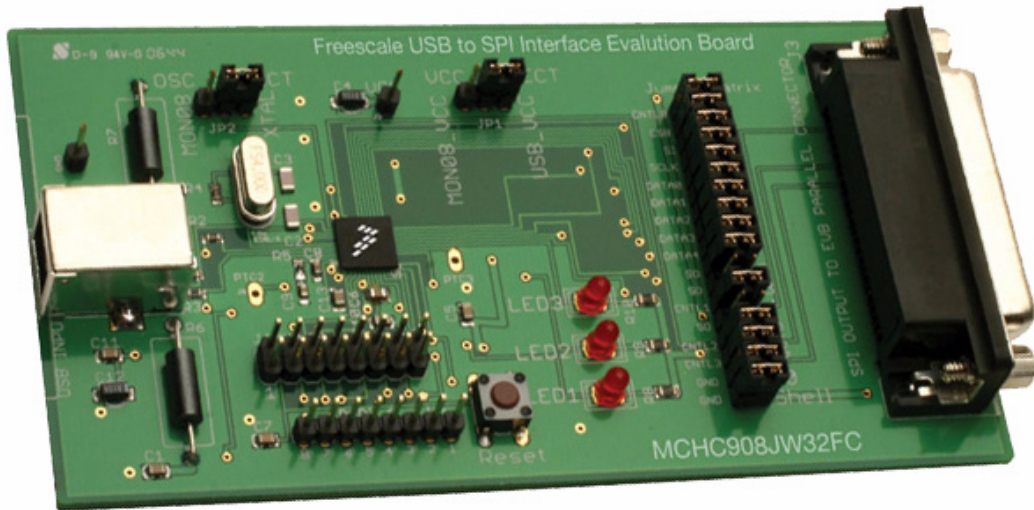


Figure 1. Kit USBSPIEVME Board

Table of Contents

1	Kit Contents / Packing List	2
2	Important Notice	3
3	Using the EVB	4
4	Board Layout	5
5	Schematic	7
6	Bill of Material	8
7	References	11
8	Revision History	12

1 Kit Contents / Packing List

- 770-20595: Hardware Doc CDUSBSPi, KITUSBSPiEVME
- 700-20595: PWA, KITUSBSPiEVME
- 600-75489, Cable, 6 FT. USB2.0 A-M TO B-M
- 920-90570-00: Technical Information Center Freescale Semiconductor , Inc. , BR1530
- 920-75133: Warranty Card, Freescale

2 Important Notice

Freescale provides the enclosed product(s) under the following conditions:

This evaluation kit is intended for use of ENGINEERING DEVELOPMENT OR EVALUATION PURPOSES ONLY. It is provided as a sample IC pre-soldered to a printed circuit board to make it easier to access inputs, outputs, and supply terminals. This EVB may be used with any development system or other source of I/O signals by simply connecting it to the host MCU or computer board via off-the-shelf cables. This EVB is not a Reference Design and is not intended to represent a final design recommendation for any particular application. Final device in an application will be heavily dependent on proper printed circuit board layout and heat sinking design as well as attention to supply filtering, transient suppression, and I/O signal quality.

The goods provided may not be complete in terms of required design, marketing, and or manufacturing related protective considerations, including product safety measures typically found in the end product incorporating the goods. Due to the open construction of the product, it is the user's responsibility to take any and all appropriate precautions with regard to electrostatic discharge. In order to minimize risks associated with the customers applications, adequate design and operating safeguards must be provided by the customer to minimize inherent or procedural hazards. For any safety concerns, contact Freescale sales and technical support services.

Should this evaluation kit not meet the specifications indicated in the kit, it may be returned within 30 days from the date of delivery and will be replaced by a new kit.

Freescale reserves the right to make changes without further notice to any products herein. Freescale makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does Freescale assume any liability arising out of the application or use of any product or circuit, and specifically disclaims any and all liability, including without limitation consequential or incidental damages. "Typical" parameters can and do vary in different applications and actual performance may vary over time. All operating parameters, including "Typical", must be validated for each customer application by customer's technical experts.

Freescale does not convey any license under its patent rights nor the rights of others. Freescale products are not designed, intended, or authorized for use as components in systems intended for surgical implant into the body, or other applications intended to support or sustain life, or for any other application in which the failure of the Freescale product could create a situation where personal injury or death may occur.

Should the Buyer purchase or use Freescale products for any such unintended or unauthorized application, the Buyer shall indemnify and hold Freescale and its officers, employees, subsidiaries, affiliates, and distributors harmless against all claims, costs, damages, and expenses, and reasonable attorney fees arising out of, directly or indirectly, any claim of personal injury or death associated with such unintended or unauthorized use, even if such claim alleges that Freescale was negligent regarding the design or manufacture of the part. Freescale™ and the Freescale logo are trademarks of Freescale Semiconductor, Inc. All other product or service names are the property of their respective owners. © Freescale Semiconductor, Inc. 2008

3 Using the EVB

Warning: Always wear Safety Glasses when working around electronic modules and when soldering.

See file MCHC908JW32 Demo Board.doc or MCHC908JW32 Demo Board.pdf on this CD for Instructions

4 Board Layout

4.1 Top Copper

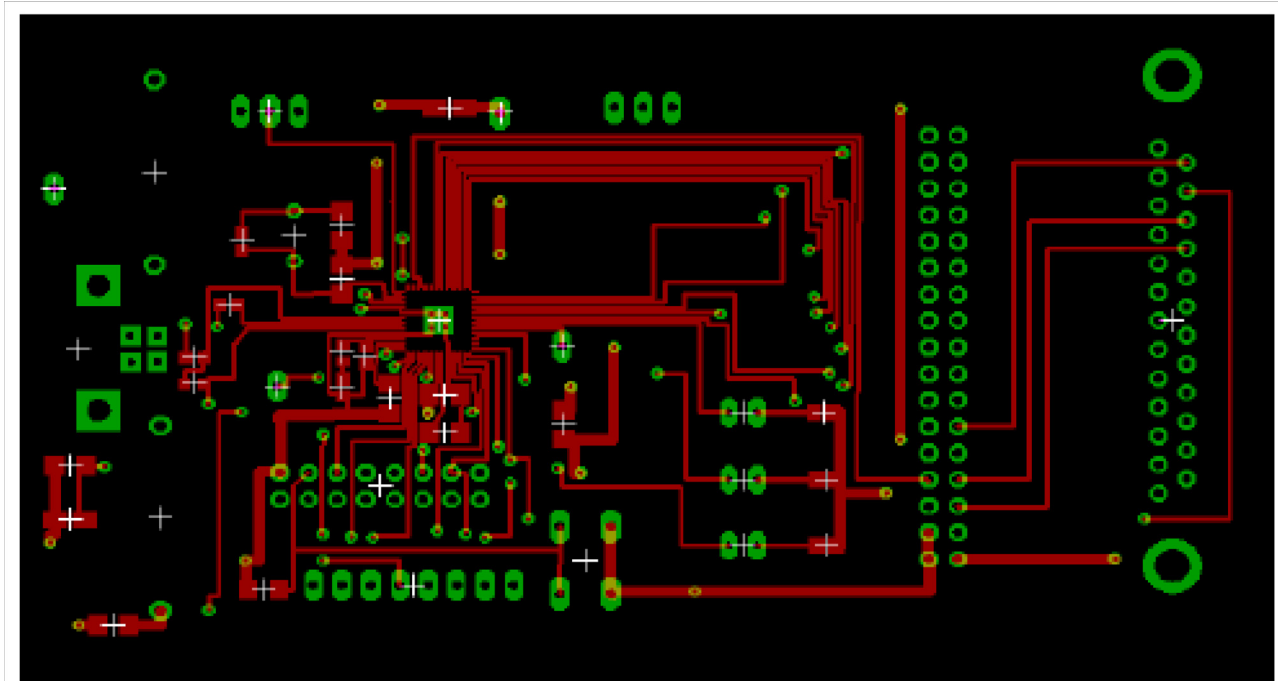


Figure 1. Top Copper Layer

4.2 Bottom Copper

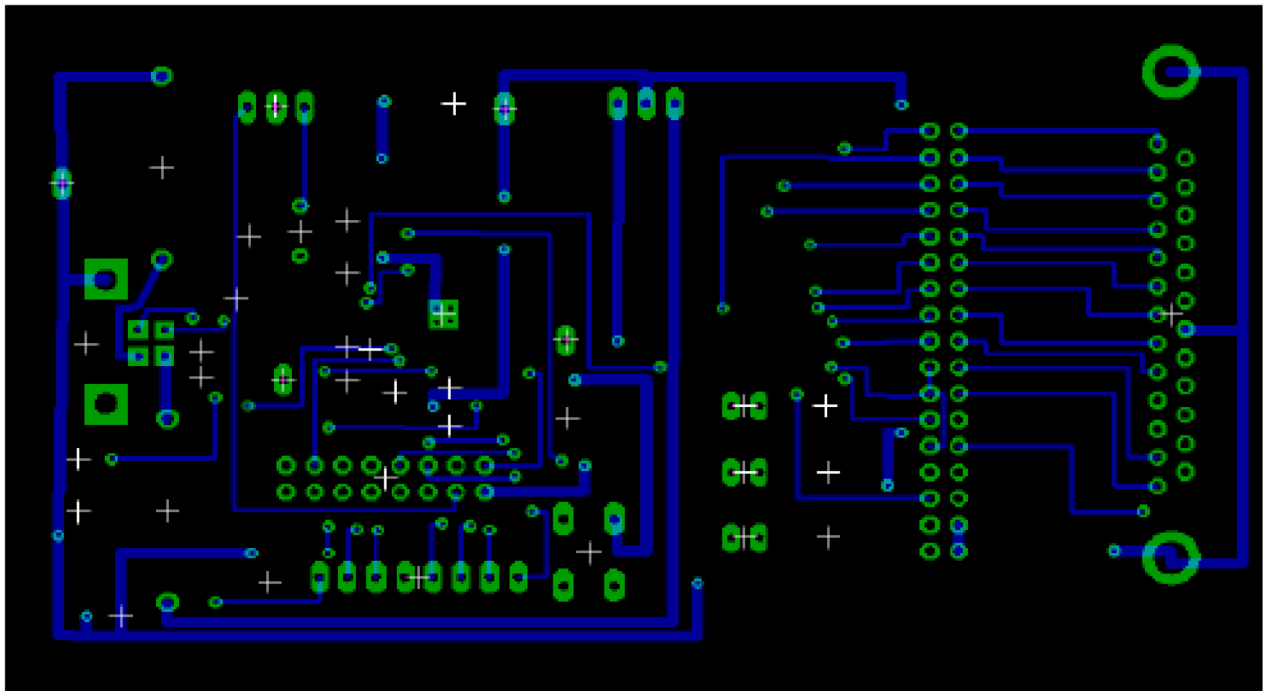


Figure 2. Bottom Copper Layer (as seen thru board looking from the top)

5 Schematic

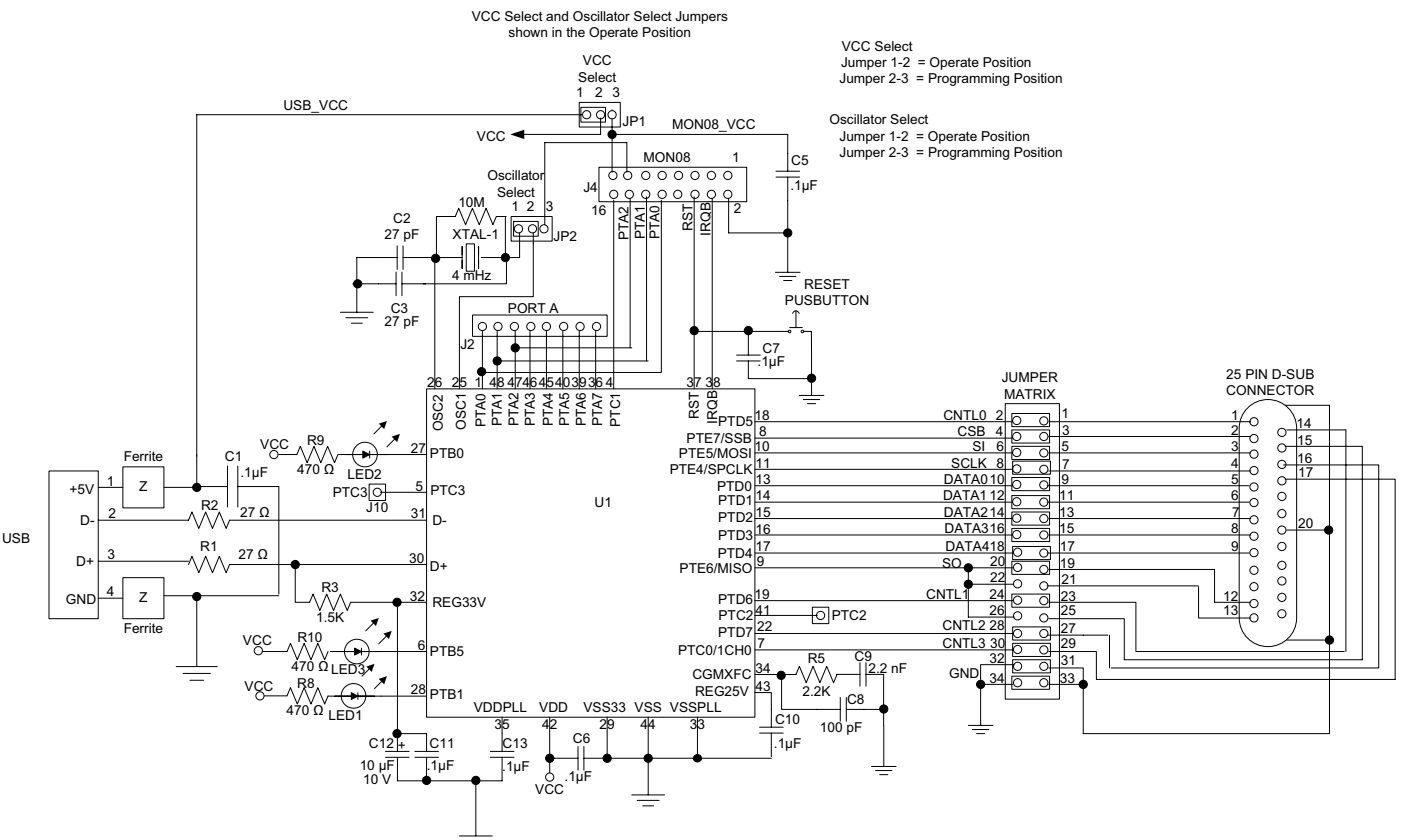


Figure 3. Schematic Drawing

6 Bill of Material

Device or Signal Name	Part Type	Agile Number	Description	Mfr	PN	Digi-Key PN
USB_VCC	CC1206	151-00102-00	CAP CER 0.1 μ F 50 V 20% Z5U CC1206 ROHS COMPLIANT	KEMET	C1206C10 4K5RAC	399-1249-1 -ND
OSC2	CC1206	150-75042	CAP CER 27 PF 50 V 5% C0G CC1206	KEMET	C1206C27 0J5GAC	399-1198-1 -ND
OSC1	CC1206	150-75042	CAP CER 27 PF 50 V 5% C0G CC1206	KEMET	C1206C27 0J5GAC	399-1198-1 -ND
VBAT	CC1206	151-00102-00	CAP CER 0.1 μ F 50 V 20% Z5U CC1206 ROHS COMPLIANT	KEMET	C1206C10 4K5RAC	399-1249-1 -ND
MON08_VCC	CC1206	151-00102-00	CAP CER 0.1 μ F 50 V 20% Z5U CC1206 ROHS COMPLIANT	KEMET	C1206C10 4K5RAC	399-1249-1 -ND
VCC	CC1206	151-00102-00	CAP CER 0.1 μ F 50 V 20% Z5U CC1206 ROHS COMPLIANT	KEMET	C1206C10 4K5RAC	399-1249-1 -ND
VOSC	CC1206	151-00102-00	CAP CER 0.1 μ F 50 V 20% Z5U CC1206 ROHS COMPLIANT	KEMET	C1206C10 4K5RAC	399-1249-1 -ND
CGMXFC	CC1206	150-30014	CAP CER 100 PF 50 V 10% COG 0603 ROHS	AVX	06035A101 KAT2A	478-1175-1 -ND
CGMXFC	CC1206	150-75368	CAP CER 0.022 μ F 25 V 10% X7R CC0603	AVX	06033C223 KAT2A	NA
REG2.5V	CC1206	151-00102-00	CAP CER 0.1 μ F 50 V 20% Z5U CC1206 ROHS COMPLIANT	KEMET	C1206C10 4K5RAC	399-1249-1 -ND
REG3.3V	CC1206	151-00102-00	CAP CER 0.1 μ F 50 V 20% Z5U CC1206 ROHS COMPLIANT	KEMET	C1206C10 4K5RAC	399-1249-1 -ND
REG3.3V	Case A	150-30020	CAP TANT 10 μ F 10 V 10% -- CASE_A ROHS	VISHAY INTERTECHNOL OGY	293D106X 9010A2TE 3	NA
VDD_PLL	CC1206	151-00102-00	CAP CER 0.1 μ F 50 V 20% Z5U CC1206 ROHS COMPLIANT	KEMET	C1206C10 4K5RAC	399-1249-1 -ND
VR_OUT	Case A	150-30020	CAP TANT 10 μ F 10 V 10% -- CASE_A ROHS	VISHAY INTERTECHNOL OGY	293D106X 9010A2TE 3	NA
D-	RC0603	470-75510	RES TF 27 1/10 W 1% RC0603 ROHS COMPLIANT	BOURNS	CR0402JW 270GLF	NA
D+	RC0603	470-75510	RES TF 27 1/10 W 1% RC0603 ROHS COMPLIANT	BOURNS	CR0402JW 270GLF	NA
D-	RC0603	470-76044	RES TF 1.50 K 1/10 W 1% RC0603 ROHS COMPLIANT	BOURNS	CR0603FX 1501ELF	NA
OSC1 OSC2	RC0603	470-75553	RES TF 10 M 1/10 W 5% RC0603 ROHS COMPLIANT	BOURNS	CR0603JW 106ELF	NA
CGMXFC	RC0603	470-75399	RES TF 2.2 K 1/10 W 5% RC0603 ROHS COMPLIANT	BOURNS	CR0603JW 222ELF	NA
USB_VCC		NA	JUMPER WIRE WITH FERRITE BEAD 28L0138-40R-10	STEWART	28L0138-4 0R-10	240-2439-2 -ND
GND		NA	JUMPER WIRE WITH FERRITE BEAD 28L0138-40R-10	STEWART	28L0138-4 0R-10	240-2439-2 -ND
LED1 PU	RC0805	470-75575	RES TF 470 1/8 W 5% RC0805 ROHS COMPLIANT	BOURNS	CR0805JW 471ELF	NA

Device or Signal Name	Part Type	Agile Number	Description	Mfr	PN	Digi-Key PN
LED2 PU	RC0805	470-75575	RES TF 470 1/8 W 5% RC0805 ROHS COMPLIANT	BOURNS	CR0805JW471ELF	NA
LED3 PU	RC0805	470-75575	RES TF 470 1/8 W 5% RC0805 ROHS COMPLIANT	BOURNS	CR0805JW471ELF	NA
VCC SELECT		210-75662	3 pin HDR 1X10 100 MIL CTR LOW PROFILE BREAKAWAY ROHS COMPLIANT	TYCO ELECTRONICS	1-826629-0	
OSC SELECT		210-75662	3 pin HDR 1X10 100 MIL CTR LOW PROFILE BREAKAWAY ROHS COMPLIANT	TYCO ELECTRONICS	1-826629-0	
USB		NA	USB B PC MOUNT FEMALE CONNECTOR ROHS COMPLIANT	MOLEX/WALDOM ELECTRONICS	67068-8000	WM17113-ND
PORT A		210-75662	8 pin HDR 1X10 100 MIL CTR LOW PROFILE BREAKAWAY ROHS COMPLIANT	TYCO ELECTRONICS	1-826629-0	
PARALLEL PORT		210-75750	CON 25 DB RA SKT TH -- AU BRDLK ROHS COMPLIANT	TYCO ELECTRONICS	5747846-6	
MON08		210-75662	16 pin HDR 2X8 100 MIL CTR LOW PROFILE BREAKAWAY ROHS COMPLIANT	TYCO ELECTRONICS	1-826629-0	
VCC		210-75662	1 pin HDR 1X1 100 MIL CTR LOW PROFILE BREAKAWAY ROHS COMPLIANT	TYCO ELECTRONICS	1-826629-0	
JUMPER MATRIX		210-75662	34 pin HDR 2X17 100 MIL CTR LOW PROFILE BREAKAWAY ROHS COMPLIANT	TYCO ELECTRONICS	1-826629-0	
GND		210-75662	1 pin HDR 1X1 100 MIL CTR LOW PROFILE BREAKAWAY ROHS COMPLIANT	TYCO ELECTRONICS	1-826629-0	
PORT D		210-75662	8 pin HDR 1X9 100 MIL CTR LOW PROFILE BREAKAWAY ROHS COMPLIANT	TYCO ELECTRONICS	1-826629-0	
PTC2		210-75662	1 pin HDR 1X1 100 MIL CTR LOW PROFILE BREAKAWAY ROHS COMPLIANT	TYCO ELECTRONICS	1-826629-0	
PTC3		210-75662	1 pin HDR 1X1 100 MIL CTR LOW PROFILE BREAKAWAY ROHS COMPLIANT	TYCO ELECTRONICS	1-826629-0	
MICRO	QFN-48	NA	MCHC908JW32FC 8 bit USB/SPI microcontroller ROHS COMPLIANT	FREESCALE SEMICONDUCTOR	MC68HC908JW32	
LED	PCB Vertical 5 mm	NA	LED 5 mm VERT LOW CUR RED PC MNT	DIALIGHT	561-1101-060	561-1101-060-ND
LED	PCB Vertical 5 mm	NA	LED 5 mm VERT LOW CUR RED PC MNT	DIALIGHT	561-1101-060	561-1101-060-ND
LED	PCB Vertical 5 mm	NA	LED 5 mm VERT LOW CUR RED PC MNT	DIALIGHT	561-1101-060	561-1101-060-ND
RESET PB		NA	SW PB MOM SMT	OMRON ELECTRONICS	B3F-1000S	B3F-1000S-ND

Device or Signal Name	Part Type	Agile Number	Description	Mfr	PN	Digi-Key PN
OSC1 OSC2	HC49/S	230-75423	XTAL 4.0 MHZ RSN 50 PPM TH CL=10 PF ROHS	FOX ELECTRONICS	FOXSLF/0 40	
Cable			USB A to USB B cable 6 foot			

Freescale does not assume liability, endorse, or warrant components from external manufacturers that are referenced in circuit drawings or tables. While Freescale offers component recommendations in this configuration, it is the customer's responsibility to validate their application.

7 References

Following are URLs where you can obtain information on other Freescale products and application solutions:

Description	URL
Reference Web Sites	Reference URL Locations
Freescale Web Site	http://www.freescale.com/
MC33811 Product Summary Page	http://www.freescale.com/webapp/sps/site/prod_summary.jsp?code=MC33811
MC33811 Datasheet	http://www.freescale.com/files/analog/doc/data_sheet/MC33811.pdf
MC33810 Product Summary Page	http://www.freescale.com/webapp/sps/site/prod_summary.jsp?code=MC33810
MC33810 Datasheet	http://www.freescale.com/files/analog/doc/data_sheet/MC33810.pdf
KITUSBSPIDNGLEVME Summary Page	http://www.freescale.com/webapp/sps/site/prod_summary.jsp?code=KITUSBSPIDGLEVME

8 Revision History

Revision	Date	Description of Changes
1.0	2/2008	Initial Release
2.0	12/2009	Converted to new format

How to Reach Us:

Home Page:

www.freescale.com

Web Support:

<http://www.freescale.com/support>

USA/Europe or Locations Not Listed:

Freescale Semiconductor, Inc.
Technical Information Center, EL516
2100 East Elliot Road
Tempe, Arizona 85284
1-800-521-6274 or +1-480-768-2130
www.freescale.com/support

Europe, Middle East, and Africa:

Freescale Halbleiter Deutschland GmbH
Technical Information Center
Schatzbogen 7
81829 Muenchen, Germany
+44 1296 380 456 (English)
+46 8 52200080 (English)
+49 89 92103 559 (German)
+33 1 69 35 48 48 (French)
www.freescale.com/support

Japan:

Freescale Semiconductor Japan Ltd.
Headquarters
ARCO Tower 15F
1-8-1, Shimo-Meguro, Meguro-ku,
Tokyo 153-0064
Japan
0120 191014 or +81 3 5437 9125
support.japan@freescale.com

Asia/Pacific:

Freescale Semiconductor China Ltd.
Exchange Building 23F
No. 118 Jianguo Road
Chaoyang District
Beijing 100022
China
+86 10 5879 8000
support.asia@freescale.com

For Literature Requests Only:

Freescale Semiconductor Literature Distribution Center
P.O. Box 5405
Denver, Colorado 80217
1-800-441-2447 or +1-303-675-2140
Fax: +1-303-675-2150
LDCForFreescaleSemiconductor@hibbertgroup.com

Information in this document is provided solely to enable system and software implementers to use Freescale Semiconductor products. There are no express or implied copyright licenses granted hereunder to design or fabricate any integrated circuits or integrated circuits based on the information in this document.

Freescale Semiconductor reserves the right to make changes without further notice to any products herein. Freescale Semiconductor makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does Freescale Semiconductor assume any liability arising out of the application or use of any product or circuit, and specifically disclaims any and all liability, including without limitation consequential or incidental damages. "Typical" parameters that may be provided in Freescale Semiconductor data sheets and/or specifications can and do vary in different applications and actual performance may vary over time. All operating parameters, including "Typicals", must be validated for each customer application by customer's technical experts. Freescale Semiconductor does not convey any license under its patent rights nor the rights of others. Freescale Semiconductor products are not designed, intended, or authorized for use as components in systems intended for surgical implant into the body, or other applications intended to support or sustain life, or for any other application in which the failure of the Freescale Semiconductor product could create a situation where personal injury or death may occur. Should Buyer purchase or use Freescale Semiconductor products for any such unintended or unauthorized application, Buyer shall indemnify and hold Freescale Semiconductor and its officers, employees, subsidiaries, affiliates, and distributors harmless against all claims, costs, damages, and expenses, and reasonable attorney fees arising out of, directly or indirectly, any claim of personal injury or death associated with such unintended or unauthorized use, even if such claim alleges that Freescale Semiconductor was negligent regarding the design or manufacture of the part.



Freescale™ and the Freescale logo are trademarks of Freescale Semiconductor, Inc. All other product or service names are the property of their respective owners.

© Freescale Semiconductor, Inc. 2009. All rights reserved.