

ICs for Consumer Electronics MEGATEXT

Index

MEGATEXT	
Revision History: 10.94	
Previous Releases: 11.93, 02.94	
Page	Subjects (changes since last revision)

Data Classification

Maximum Ratings

Maximum ratings are absolute ratings; exceeding only one of these values may cause irreversible damage to the integrated circuit.

Characteristics

The listed characteristics are ensured over the operating range of the integrated circuit. Typical characteristics specify mean values expected over the production spread. If not otherwise specified, typical characteristics apply at $T_A = 25\text{ °C}$ and the given supply voltage.

Operating Range

In the operating range the functions given in the circuit description are fulfilled.

For detailed technical information about “**Processing Guidelines**” and “**Quality Assurance**” for ICs, see our “**Short Form Catalog**”.

Edition 10.94

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Packing

Please use the recycling operators known to you. We can also help you – get in touch with your nearest sales office. By agreement we will take packing material back, if it is sorted. You must bear the costs of transport.

For packing material, that is returned to us unsorted or which we are not obliged to accept we shall have to bill you all costs incurred.

Index (for some basic expressions of MEGATEXT)

Item	Explanation/ Describing Documents
16:9 displays	<p>“Hardware Functions”: chapter 11 “16:9-FIFO”</p> <p>“M3L Bus Registers”: R114</p> <p>“Hardware Application Notes”: Display pixelrate and visible characters</p>
acquisition	<p><i>process of retrieving and collecting data of data services added to the CVBS</i></p> <p>“Acquisition Reference” “MEGATEXT Command Interface”</p>
acquisition clock	<p><i>sample clock of the CVBS-ADC (typ. 24 MHz) generated by the HPLL</i></p> <p>“Getting Started” chapter 3.4 “Clocks”</p> <p>“Hardware Functions”: chapter 1 “Chip Overview” chapter 3 “Sync Slicer & Clock”</p> <p>“M3L Bus Registers”: R112</p> <p>“Hardware Application Notes”: Sync “Data Sheet SDA 5273” characteristics CLK_IO</p>
acquisition groups	<p><i>group of requests of pages which are searched with the same set of search parameters</i></p> <p>“Acquisition Reference” “MEGATEXT Command Interface”</p>
acquisition PLL	see “HPLL”
binary RAM address	<p><i>one of the two address formats of the internal or external DRAM</i></p> <p>see IRAM</p> <p>“Hardware Functions”: chapter “Internal DRAM”</p> <p>“M3L Bus Registers”: R48 to R53 (data port)</p>

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Item	Explanation/ Describing Documents
blanking	<i>control signal for an external RGB switch available at pin BLANQ</i> "Data Sheet SDA 5273": characteristics BLANQ
brightness control	<i>control of the dc level at the RGB outputs</i> "Getting Started" chapter 3.6 "RGB" "Hardware Functions": chapter 12 "RGB" "M3L Bus Registers" R83, R115 "Data Sheet SDA 5273": characteristics R, G, B
Character ROM	<i>internal ROM of 256 characters with a resolution of 12 x 10 pixel</i> "Hardware Functions": chapter 9 "Display Generator" "Display Functions": chapter 5 "Character Display Word: Character Set"
closed caption	<i>north american standard for the transmission of subtitles for deaf people</i> <i>(MEGATEXT can not display closed caption subtitles.</i> <i>Nevertheless closed caption data can be received.)</i> see "Single Data Line"
CLUT	<i><u>C</u>olor <u>L</u>ook <u>U</u>p <u>T</u>able</i> "Display Functions": chapter 3 "CLUT"
contrast control	<i>control of the RGB signal amplitude</i> "Hardware Functions": chapter 12 "RGB" "M3L Bus Registers": R83 "Data Sheet SDA 5273": characteristics RGB

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Item	Explanation/ Describing Documents
contrast reduction	<i>control signal available at pin CORQ to reduce the gain of an external RGB switch</i> "Hardware Functions": chapter 12 "RGB" "Data Sheet SDA 5273": characteristics CORQ
CRT aspect ratio	"Hardware Functions": chapter 11 "16:9-FIFO" "Sync Application Note"
Crystal oscillator	"Getting Started" chapter 3.3 "Crystal/Resonator" "Data Sheet SDA 5273": characteristics XIN, XOUT, crystal
CVBS <ul style="list-style-type: none"> – standard – clamping – amplitude 	"Getting Started" chapter 3.9 "CVBS" "Hardware Functions": chapter 2 "ADC" "Data Sheet SDA 5273": characteristics CVBS "M3L Bus Registers": R108
CVBS-PLL	see "HPLL"
display clock	<i>clock of the PU and the display generator</i> "Getting Started" chapter 3.4 "Clocks" "Hardware Functions": chapter 1 "Chip Overview" chapter 10 "Display Clock & Timing" "M3L Bus Registers": R112
display features	"System Overview" "Display Functions"

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Item	Explanation/ Describing Documents
display memory	<p>“Getting Started” chapter 4 “Editing the Display”</p> <p>“Display Functions”: chapter 4.3.5 “Basic or Extended Memory” chapter 4.4.3 “Address Mapping” chapter 6.2 “Memory Location of PCS” chapter 7.6 “Memory Location of Graphics”</p>
display PLL	<p>“M3L Bus Registers”: R113, R114</p>
display registers	<p><i>display controlbits located in the IRAM block 0</i></p> <p>“Display Functions” “Display Registers”</p>
display synchronization	<p>“Getting Started” chapter 3.5 “Display Synchronization”</p> <p>“M3L Bus Registers”: R112 to R117</p> <p>“Hardware Application Note”</p>
downloadable RISC programs	<p>“Getting Started” chapter 6 “Downloadable RISC Software”</p>
DRCS	<p><i><u>D</u>ynamically <u>R</u>edefinable <u>C</u>haracter <u>S</u>et (high level teletext transmission of character shapes)</i></p> <p>see PCS</p> <p>“World Standard Teletext Specification” “Teletext Specification of the EBU”</p>
ESD protection	<p>“Data Sheet SDA 5273”: maximum ratings</p>
external DRAM	<p>“Getting Started” chapter 3.4 “External DRAM”</p> <p>“Data Sheet SDA 5273”: characteristics DRAM</p>
fast blanking	see Blanking
FASTTEXT	<p><i>synonym for FLOF</i></p> <p>see FLOF</p>

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Item	Explanation/ Describing Documents
FLOF	<p><i>Full Level One Feature</i> <i>teletext transmission with additional information about linked pages</i></p> <p>“World Standard Teletext Specification” “Teletext Specification of the EBU” “Acquisition Reference” “MEGATEXT Command Interface” command “EXECUTE FLOF”</p>
free run modes	<p><i>mode with no external sync – the sync is generated by MEGATEXT itself, the time base is the crystal frequency</i></p> <p>“Getting Started”: chapter 3.5 “Display Synchronization” “M3L Bus Registers”: R116 “Hardware Application Note”: Sync “Data Sheet SDA 5273”: characteristics DRAM</p>
graphics graphic memory	<p>“Display Functions”: chapter 7 “Graphics”</p>
HPLL	<p><i>horizontal PLL locking on the CVBS</i></p> <p>“Hardware Functions”: chapter 3 “Sync Slicer & Clock” “Data Sheet SDA 5273”: characteristics “PLL” “M3L Bus Registers”: R109 “Hardware Application Note”: Sync</p>
IIC-bus	<p><i>Inter IC bus</i> <i>3-wire serial bus standard</i></p> <p>see “Serial Bus”</p> <p>“Hardware Application Note”: Bus</p>
Initialization	<p>see also “Reset”</p> <p>“M3L Bus Registers”: register default values</p>

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Item	Explanation/ Describing Documents
IRAM	<i>Internal DRAM</i> (24 Kbyte on_chip DRAM) "Getting Started" chapter 3.7 "Internal DRAM" "Hardware Functions": chapter 8 "Internal DRAM" "M3L Bus Registers": R48 ... R53 (data port)
Level 1 Level 1.5 Level 3	<i>teletext feature content:</i> <i>level 1: standard</i> <i>level 1.5: FLOF, TOP</i> <i>level 3: teletext with DRCS and graphic</i>
M3L-bus	"MEGATEXT Three Line Bus" see "Serial Bus" "Hardware Application Note": Bus
MCI	<u>MEGATEXT Command Interface</u> – summary of high level commands realized by RISC routines stored as firmware in the on_chip command ROM
memory allocation	see IRAM, external DRAM
memory buffer	see "RAM Buffer"
Non page related data	<i>teletext data packets with general channel information</i> "Acquisition Reference" chapter "Request of Pseudopackets"
packet 26, 27	"Acquisition Reference" chapter "Request of Pseudopackets" "MEGATEXT Command Interface" appendix: "Stored format of Packets with 3 Byte Hamming Checks"
packet 8/30	see "Non Page Related Data" "MEGATEXT Command Interface" appendix: "Stored Format of Packet 8/30"
packet trace	"Acquisition Reference" chapter "Request of Pseudopackets" "MEGATEXT Command Interface"

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Item	Explanation/ Describing Documents
page request table	<p><i>table with the request status for all possible page numbers</i></p> <p>see also “Page Trace”</p> <p>“MEGATEXT Command Interface” command “READ_CLEAR_PAGE_TRACE”</p>
page trace	<p><i>table showing the transmission status of all possible page numbers</i></p> <p>“MEGATEXT Command Interface” command “READ_PSEUDO_PACKET_TRACE”</p>
PCS	<p><i>programmable character set</i></p> <p>“Getting Started”: chapter 4 “Editing the Display”</p> <p>“Display Functions”: chapter 6 “PCS Characters”</p>
PDC	<p><i>program delivery control – control data transmitted in packet 8/30 for VCR and TV set programming</i></p> <p>“Acquisition Reference”: “MEGATEXT Command Interface”:</p>
pin_reset	<p><i>reset activated by high level at pin “RES”</i></p> <p>see “Reset”</p>
pixelrate	<p><i>number of pixels per second in MHz – the pixelrate defines the width of a character for a given horizontal scan rate</i></p> <p>“Sync Application Note” “M3L Bus Registers”: R114</p> <p>“Display Functions”: chapter 4.3 “Page Position Word: Line Speed Control”</p>
power consumption	<p>“Data Sheet SDA 5273” characteristics V_{DD}, I_{DD}, V_{DDA}, I_{DDA}</p>
power_on_reset	see “Reset”

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Item	Explanation/ Describing Documents
RAM buffer	<i>DRAM area allocated for intermediate acquisition data</i> "Firmware Overview" "Acquisition Reference"
RAM program	see "Downloadable RISC Programs"
Reset	"Getting Started" chapter 3.1 "Reset" "Hardware Functions": chapter 1 "Chip Overview: Power_up & Reset" "M3L Bus Registers": R114 "Data Sheet SDA 5273": characteristics "Reset"
refresh of external DRAMs	"Getting Started" chapter 3.8 "External DRAM" "MEGATEXT Command Interface": appendix: "Software Refresh"
resolution of graphics	"Display Functions" chapter 7 "Graphics"
resolution of RGB	"Getting Started" chapter 3.9 "RGB" "Display Functions": chapter 3 "CLUT" chapter 6 "PCS" "Data Sheet SDA 5273": characteristics "RGB"
RISC programs, download of	see "Downloadable RISC Programs"
row/column RAM address	<i>one of the two address formats of the internal or external DRAM</i> see IRAM
SDO file format	<i>data format of MEGATEXT development tools – SDO files can be downloaded into the IRAM</i>
search types	<i>selectable property of the acquisition procedure</i> "Firmware Overview" "Acquisition Reference" "MEGATEXT Command Interface"

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Item	Explanation/ Describing Documents
serial bus	"Data Sheet SDA 5273": characteristics "IICEN, SDA, SCL"
signal quality	"Getting Started" chapter 5.3 "Signal Quality" "M3L Bus Registers": R105 "MEGATEXT Command Interface" appendix: "SIGNAL_QUALITY"
single data line acquisition	<i>acquisition mode for data services like VPS</i> see also VPS "Getting Started": chapter 4 "Acquisition" "Acquisition Reference": "M3L Bus Registers": R98, R100
software_reset	reset activated by an external micro controller via serial bus see "Reset" "M3L Bus Registers": R255
SPC	<i>serial to parallel conversion</i> conversion of serial teletext level one attributes into parallel MEGATEXT display attributes "Getting Started" chapter 4 "Acquisition" "MEGATEXT Command Interface" command "SERIAL PARALLEL CONVERSION"
synchronization, display	see "Display Synchronization"
TIFF file format	<i>data format for graphics</i> can be transformed into SDO files for MEGATEXT "MegaTIFF"

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Item	Explanation/ Describing Documents
time constant of the display-PLL	see also “Display PLL” “M3L Bus Registers”: R117, D5
time constant of the CVBS-PLL	see also “HPLL” “M3L Bus Registers”: R109, D4
TOP	<i>Table of Pages</i> “Firmware Overview” “Acquisition Reference” “MEGATEXT Command Interface”
vertical sync processing	“M3L Bus Registers”: R116 “Hardware Application Note”: Sync
VPS	<i>Video Programming System – control data transmitted in line 16 for VCR and TV set programming</i> see “Single Data Line Acquisition” “MEGATEXT Command Interface” appendix: “VPS”
wait condition	<i>MEGATEXT stopping the serial bus transfer</i> “Hardware Application Note”: Bus “Data Sheet SDA 5273”: characteristics SCL
WST	<i>World Standard Teletext</i>