

Microsemi Corporation: CN17019R

December 15, 2017

Customer Notification No: CN17019R

Customer Advisory Notice (CAN)

Note: CN17019 was originally issued upon a customer request subsequent to its discovery by the customer on one of the ProASIC3 derivative devices (Fusion). Microsemi's initial engineering analysis found this to be a silicon issue in the Block SRAM. Upon further review, Microsemi engineering concluded that the read failure was due to violation of the Block SRAM timing, and therefore not a silicon issue. Thus, we have decided to replace the original version of the Customer Advisory Notification issued on October 13, 2017 with this current updated version. Since this is a design issue rather than a device issue, Microsemi decided not to test any other FPGAs containing the Block SRAM.

Subject

IGLOO, ProASIC3, Fusion, SmartFusion, and RT ProASIC3 Data Corruption in Block SRAM when setup and hold requirements are violated on address inputs. (Revision)

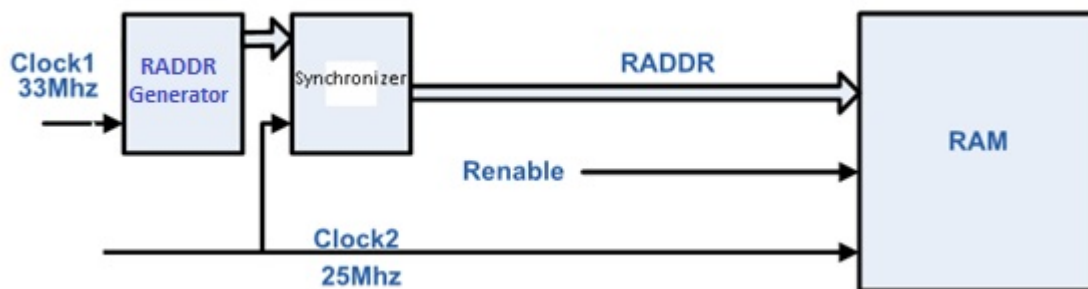
Description

Data in the Block SRAM can be corrupted during a read operation when the read address does not meet setup and hold requirements with respect to the clock for that port. The data corruption occurs when the read address (RADDR) changes almost simultaneously with read clock (RCLK) edge (i.e., RADDR violates the timing requirement of the memory). **Users must always meet the setup and hold time requirements on the RAM inputs to have reliable and predictable results for reads and writes.**

Any IGLOO, ProASIC3, Fusion, SmartFusion, or RT ProASIC3 device could have this issue. See the list of currently active IGLOO, ProASIC3, Fusion, SmartFusion, and RT ProASIC3 part numbers as of this date in [Appendix A: List of IGLOO, ProASIC3, Fusion, SmartFusion and RT ProASIC3 Devices \(see page 2\)](#).

Workaround

To avoid data corruption due to Asynchronous clocking for read address and read clock of the RAM, users must implement a proper synchronizer circuit. The following diagram shows an example:



If you have any questions, please contact Microsemi's SoC Technical Support at soc_tech@microsemi.com.

Regards,

Microsemi Corporation

Appendix A: List of IGLOO, ProASIC3, Fusion, SmartFusion, and RT

ProASIC3 Devices

IGLOO Device List

AGL015	AGL030	AGL060	AGL125
AGL015V2-QNG68	AGL030V2-CSG81	AGL060V2-CS121	AGL125V2-CS196
AGL015V2-QNG68I	AGL030V2-CSG81I	AGL060V2-CS121I	AGL125V2-CS196I
AGL015V5-QNG68	AGL030V2-QNG48	AGL060V2-CSG121	AGL125V2-CSG196
AGL015V5-QNG68I	AGL030V2-QNG48I	AGL060V2-CSG121I	AGL125V2-CSG196I
	AGL030V2-QNG68	AGL060V2-VQ100	AGL125V2-FG144
	AGL030V2-QNG68I	AGL060V2-VQ100I	AGL125V2-FG144I
	AGL030V2-UCG81	AGL060V2-VQG100	AGL125V2-FGG144
	AGL030V2-UCG81I	AGL060V2-VQG100I	AGL125V2-FGG144I
	AGL030V2-VQ100	AGL060V5-CS121	AGL125V2-VQ100
	AGL030V2-VQ100I	AGL060V5-CS121I	AGL125V2-VQ100I
	AGL030V2-VQG100	AGL060V5-CSG121	AGL125V2-VQG100
	AGL030V2-VQG100I	AGL060V5-CSG121I	AGL125V2-VQG100I
	AGL030V5-CSG81	AGL060V5-VQ100	AGL125V5-CS196
	AGL030V5-CSG81I	AGL060V5-VQ100I	AGL125V5-CS196I
	AGL030V5-QNG48	AGL060V5-VQG100	AGL125V5-CSG196
	AGL030V5-QNG48I	AGL060V5-VQG100I	AGL125V5-CSG196I
	AGL030V5-QNG68		AGL125V5-FG144
	AGL030V5-QNG68I		AGL125V5-FG144I
	AGL030V5-UCG81		AGL125V5-FGG144
	AGL030V5-UCG81I		AGL125V5-FGG144I
	AGL030V5-VQ100		AGL125V5-VQ100
	AGL030V5-VQ100I		AGL125V5-VQ100I
	AGL030V5-VQG100		AGL125V5-VQG100
	AGL030V5-VQG100I		AGL125V5-VQG100I
AGL250	AGL400	AGL600	AGL1000
AGL250V2-CS196	AGL400V2-CS196	AGL600V2-CS281	AGL1000V2-CS281
AGL250V2-CS196I	AGL400V2-CS196I	AGL600V2-CS281I	AGL1000V2-CS281I
AGL250V2-CSG196	AGL400V2-CSG196	AGL600V2-CSG281	AGL1000V2-CSG281
AGL250V2-CSG196I	AGL400V2-CSG196I	AGL600V2-CSG281I	AGL1000V2-CSG281I
AGL250V2-FG144	AGL400V2-FG144	AGL600V2-FG144	AGL1000V2-FG144
AGL250V2-FG144I	AGL400V2-FG144I	AGL600V2-FG144I	AGL1000V2-FG144I
AGL250V2-FGG144	AGL400V2-FG256	AGL600V2-FG256	AGL1000V2-FG256

AGL250V2-FGG144I	AGL400V2-FG256I	AGL600V2-FG256I	AGL1000V2-FG256I
AGL250V2-VQ100	AGL400V2-FG484	AGL600V2-FG484	AGL1000V2-FG484
AGL250V2-VQ100I	AGL400V2-FG484I	AGL600V2-FG484I	AGL1000V2-FG484I
AGL250V2-VQG100	AGL400V2-FGG144	AGL600V2-FGG144	AGL1000V2-FGG144
AGL250V2-VQG100I	AGL400V2-FGG144I	AGL600V2-FGG144I	AGL1000V2-FGG144I
AGL250V5-CS196	AGL400V2-FGG256	AGL600V2-FGG256	AGL1000V2-FGG256
AGL250V5-CS196I	AGL400V2-FGG256I	AGL600V2-FGG256I	AGL1000V2-FGG256I
AGL250V5-CSG196	AGL400V2-FGG484	AGL600V2-FGG484	AGL1000V2-FGG484
AGL250V5-CSG196I	AGL400V2-FGG484I	AGL600V2-FGG484I	AGL1000V2-FGG484I
AGL250V5-FG144	AGL400V5-CS196	AGL600V5-CS281	AGL1000V5-CS281
AGL250V5-FG144I	AGL400V5-CS196I	AGL600V5-CS281I	AGL1000V5-CS281I
AGL250V5-FGG144	AGL400V5-CSG196	AGL600V5-CSG281	AGL1000V5-CSG281
AGL250V5-FGG144I	AGL400V5-CSG196I	AGL600V5-CSG281I	AGL1000V5-CSG281I
AGL250V5-VQ100	AGL400V5-FG144	AGL600V5-FG144	AGL1000V5-FG144
AGL250V5-VQ100I	AGL400V5-FG144I	AGL600V5-FG144I	AGL1000V5-FG144I
AGL250V5-VQG100	AGL400V5-FG256	AGL600V5-FG256	AGL1000V5-FG256
AGL250V5-VQG100I	AGL400V5-FG256I	AGL600V5-FG256I	AGL1000V5-FG256I
	AGL400V5-FG484	AGL600V5-FG484	AGL1000V5-FG484
	AGL400V5-FG484I	AGL600V5-FG484I	AGL1000V5-FG484I
	AGL400V5-FGG144	AGL600V5-FGG144	AGL1000V5-FGG144
	AGL400V5-FGG144I	AGL600V5-FGG144I	AGL1000V5-FGG144I
	AGL400V5-FGG256	AGL600V5-FGG256	AGL1000V5-FGG256
	AGL400V5-FGG256I	AGL600V5-FGG256I	AGL1000V5-FGG256I
	AGL400V5-FGG484	AGL600V5-FGG484	AGL1000V5-FGG484
	AGL400V5-FGG484I	AGL600V5-FGG484I	AGL1000V5-FGG484I

AGLE600	AGLE3000
AGLE600V2-FG256	AGLE3000V2-FG484
AGLE600V2-FG256I	AGLE3000V2-FG484I
AGLE600V2-FG484	AGLE3000V2-FG896
AGLE600V2-FG484I	AGLE3000V2-FG896I
AGLE600V2-FGG256	AGLE3000V2-FGG484
AGLE600V2-FGG256I	AGLE3000V2-FGG484I
AGLE600V2-FGG484	AGLE3000V2-FGG896
AGLE600V2-FGG484I	AGLE3000V2-FGG896I
AGLE600V5-FG256	AGLE3000V5-FG484
AGLE600V5-FG256I	AGLE3000V5-FG484I
AGLE600V5-FG484	AGLE3000V5-FG896
AGLE600V5-FG484I	AGLE3000V5-FG896I
AGLE600V5-FGG256	AGLE3000V5-FGG484
AGLE600V5-FGG256I	AGLE3000V5-FGG484I

AGLE600V5-FGG484	AGLE3000V5-FGG896
	AGLE3000V5-FGG896I

AGLN010	AGLN015	AGLN020	AGLN030
AGLN010V2-QNG48	AGLN015V2-QNG68	AGLN020V2-CSG81	AGLN030V2-ZCSG81
AGLN010V2-QNG48I	AGLN015V2-QNG68I	AGLN020V2-CSG81I	AGLN030V2-ZCSG81I
AGLN010V2-UCG36	AGLN015V5-QNG68	AGLN020V2-QNG68	AGLN030V2-ZQNG48
AGLN010V2-UCG36I	AGLN015V5-QNG68I	AGLN020V2-QNG68I	AGLN030V2-ZQNG48I
AGLN010V5-QNG48		AGLN020V2-UCG81	AGLN030V5-ZQNG48
AGLN010V5-QNG48I		AGLN020V2-UCG81I	AGLN030V5-ZQNG48I
AGLN010V5-UCG36		AGLN020V5-CSG81	AGLN030V5-ZQNG68
AGLN010V5-UCG36I		AGLN020V5-CSG81I	AGLN030V5-ZQNG68I
		AGLN020V5-QNG68	AGLN030V5-ZVQG100
		AGLN020V5-QNG68I	AGLN030V5-ZVQG100I
		AGLN020V5-UCG81	
		AGLN020V5-UCG81I	

AGLN060	AGLN125	AGLN250
AGLN060V2-CSG81	AGLN125V2-CSG81	AGLN250V2-CSG81
AGLN060V2-CSG81I	AGLN125V2-CSG81I	AGLN250V2-CSG81I
AGLN060V2-VQ100	AGLN125V2-VQ100	AGLN250V2-VQ100
AGLN060V2-VQ100I	AGLN125V2-VQ100I	AGLN250V2-VQ100I
AGLN060V2-VQG100	AGLN125V2-VQG100	AGLN250V2-VQG100
AGLN060V2-VQG100I	AGLN125V2-VQG100I	AGLN250V2-VQG100I
AGLN060V2-ZVQG100	AGLN125V2-ZVQG100	AGLN250V2-ZCSG81
AGLN060V2-ZVQG100I	AGLN125V2-ZVQG100I	AGLN250V2-ZCSG81I
AGLN060V5-CSG81	AGLN125V5-CSG81	AGLN250V5-CSG81
AGLN060V5-CSG81I	AGLN125V5-CSG81I	AGLN250V5-CSG81I
AGLN060V5-VQ100	AGLN125V5-VQ100	AGLN250V5-VQ100
AGLN060V5-VQ100I	AGLN125V5-VQ100I	AGLN250V5-VQ100I
AGLN060V5-VQG100	AGLN125V5-VQG100	AGLN250V5-VQG100
AGLN060V5-VQG100I	AGLN125V5-VQG100I	AGLN250V5-VQG100I
AGLN060V5-ZVQG100	AGLN125V5-ZVQG100	AGLN250V5-ZVQG100
AGLN060V5-ZVQG100I	AGLN125V5-ZVQG100I	AGLN250V5-ZVQG100I
AGLN060V5-ZVQG100		
AGLN060V5-ZVQG100I		

AGLP030	AGLP060	AGLP125
AGLP030V2-CS201	AGLP060V2-CS201	AGLP125V2-CS281
AGLP030V2-CS201I	AGLP060V2-CS201I	AGLP125V2-CS281I
AGLP030V2-CS289	AGLP060V2-CS289	AGLP125V2-CS289

AGLP030V2-CS289I	AGLP060V2-CS289I	AGLP125V2-CS289I
AGLP030V2-CSG201	AGLP060V2-CSG201	AGLP125V2-CSG281
AGLP030V2-CSG201I	AGLP060V2-CSG201I	AGLP125V2-CSG281I
AGLP030V2-CSG289	AGLP060V2-CSG289	AGLP125V2-CSG289
AGLP030V2-CSG289I	AGLP060V2-CSG289I	AGLP125V2-CSG289I
AGLP030V2-VQG128	AGLP060V2-VQ176	AGLP125V5-CS281
AGLP030V2-VQG128I	AGLP060V2-VQ176I	AGLP125V5-CS281I
AGLP030V5-CS201	AGLP060V2-VQG176	AGLP125V5-CS289
AGLP030V5-CS201I	AGLP060V2-VQG176I	AGLP125V5-CS289I
AGLP030V5-CS289	AGLP060V5-CS201	AGLP125V5-CSG281
AGLP030V5-CS289I	AGLP060V5-CS201I	AGLP125V5-CSG281I
AGLP030V5-CSG201	AGLP060V5-CS289	AGLP125V5-CSG289
AGLP030V5-CSG201I	AGLP060V5-CS289I	AGLP125V5-CSG289I
AGLP030V5-CSG289	AGLP060V5-CSG201	
AGLP030V5-CSG289I	AGLP060V5-CSG201I	
AGLP030V5-VQG128	AGLP060V5-CSG289	
AGLP030V5-VQG128I	AGLP060V5-CSG289I	
	AGLP060V5-VQ176	
	AGLP060V5-VQ176I	
	AGLP060V5-VQG176	
	AGLP060V5-VQG176I	

M1AGL250	M1AGL600	M1AGL1000
M1AGL250V2-FG144	M1AGL600V2-CS281	M1AGL1000V2-CS281
M1AGL250V2-FG144I	M1AGL600V2-CS281I	M1AGL1000V2-CS281I
M1AGL250V2-FGG144	M1AGL600V2-CSG281	M1AGL1000V2-CSG281
M1AGL250V2-FGG144I	M1AGL600V2-CSG281I	M1AGL1000V2-CSG281I
M1AGL250V2-VQ100	M1AGL600V2-FG144	M1AGL1000V2-FG144
M1AGL250V2-VQ100I	M1AGL600V2-FG144I	M1AGL1000V2-FG144I
M1AGL250V2-VQG100	M1AGL600V2-FG256	M1AGL1000V2-FG256
M1AGL250V2-VQG100I	M1AGL600V2-FG256I	M1AGL1000V2-FG256I
M1AGL250V5-FG144	M1AGL600V2-FG484	M1AGL1000V2-FG484
M1AGL250V5-FG144I	M1AGL600V2-FG484I	M1AGL1000V2-FG484I
M1AGL250V5-FGG144	M1AGL600V2-FGG144	M1AGL1000V2-FGG144
M1AGL250V5-FGG144I	M1AGL600V2-FGG144I	M1AGL1000V2-FGG144I
M1AGL250V5-VQ100	M1AGL600V2-FGG256	M1AGL1000V2-FGG256
M1AGL250V5-VQ100I	M1AGL600V2-FGG256I	M1AGL1000V2-FGG256I
M1AGL250V5-VQG100	M1AGL600V2-FGG484	M1AGL1000V2-FGG484
M1AGL250V5-VQG100I	M1AGL600V2-FGG484I	M1AGL1000V2-FGG484I
	M1AGL600V5-CS281	M1AGL1000V5-CS281
	M1AGL600V5-CS281I	M1AGL1000V5-CS281I

M1AGL600V5-CSG281	M1AGL1000V5-CSG281
M1AGL600V5-CSG281I	M1AGL1000V5-CSG281I
M1AGL600V5-FG144	M1AGL1000V5-FG144
M1AGL600V5-FG144I	M1AGL1000V5-FG144I
M1AGL600V5-FG256	M1AGL1000V5-FG256
M1AGL600V5-FG256I	M1AGL1000V5-FG256I
M1AGL600V5-FG484	M1AGL1000V5-FG484
M1AGL600V5-FG484I	M1AGL1000V5-FG484I
M1AGL600V5-FGG144	M1AGL1000V5-FGG144
M1AGL600V5-FGG144I	M1AGL1000V5-FGG144I
M1AGL600V5-FGG256	M1AGL1000V5-FGG256
M1AGL600V5-FGG256I	M1AGL1000V5-FGG256I
M1AGL600V5-FGG484	M1AGL1000V5-FGG484
M1AGL600V5-FGG484I	M1AGL1000V5-FGG484I

M1AGLE3000

M1AGLE3000V2-FG484
M1AGLE3000V2-FG484I
M1AGLE3000V2-FG896
M1AGLE3000V2-FG896I
M1AGLE3000V2-FGG484
M1AGLE3000V2-FGG484I
M1AGLE3000V2-FGG896
M1AGLE3000V2-FGG896I
M1AGLE3000V5-FG484
M1AGLE3000V5-FG484I
M1AGLE3000V5-FG896
M1AGLE3000V5-FG896I
M1AGLE3000V5-FGG484
M1AGLE3000V5-FGG484I
M1AGLE3000V5-FGG896
M1AGLE3000V5-FGG896I

ProASIC3 Device List

A3P015	A3P030	A3P060	A3P125
A3P015-1QNG68	A3P030-1QNG48	A3P060-1FG144	A3P125-1FG144
A3P015-1QNG68I	A3P030-1QNG48I	A3P060-1FG144I	A3P125-1FG144I
A3P015-2QNG68	A3P030-1QNG68	A3P060-1FG144T	A3P125-1FG144T
A3P015-2QNG68I	A3P030-1QNG68I	A3P060-1FGG144	A3P125-1FGG144
A3P015-QNG68	A3P030-1VQ100	A3P060-1FGG144I	A3P125-1FGG144I
A3P015-QNG68I	A3P030-1VQ100I	A3P060-1FGG144T	A3P125-1FGG144T
	A3P030-1VQG100	A3P060-1TQ144	A3P125-1PQ208
	A3P030-1VQG100I	A3P060-1TQ144I	A3P125-1PQ208I
	A3P030-2QNG48	A3P060-1TQG144	A3P125-1PQG208
	A3P030-2QNG48I	A3P060-1TQG144I	A3P125-1PQG208I
	A3P030-2QNG68	A3P060-1VQ100	A3P125-1TQ144
	A3P030-2QNG68I	A3P060-1VQ100I	A3P125-1TQ144I
	A3P030-2VQ100	A3P060-1VQ100T	A3P125-1TQG144
	A3P030-2VQ100I	A3P060-1VQG100	A3P125-1TQG144I
	A3P030-2VQG100	A3P060-1VQG100I	A3P125-1VQ100
	A3P030-2VQG100I	A3P060-1VQG100T	A3P125-1VQ100I
	A3P030-QNG48	A3P060-2FG144	A3P125-1VQ100T
	A3P030-QNG48I	A3P060-2FG144I	A3P125-1VQG100
	A3P030-QNG68	A3P060-2FGG144	A3P125-1VQG100I
	A3P030-QNG68I	A3P060-2FGG144I	A3P125-1VQG100T
	A3P030-VQ100	A3P060-2TQ144	A3P125-2FG144
	A3P030-VQ100I	A3P060-2TQ144I	A3P125-2FG144I
	A3P030-VQG100	A3P060-2TQG144	A3P125-2FGG144
	A3P030-VQG100I	A3P060-2TQG144I	A3P125-2FGG144I
		A3P060-2VQ100	A3P125-2PQ208
		A3P060-2VQ100I	A3P125-2PQ208I
		A3P060-2VQG100	A3P125-2PQG208
		A3P060-2VQG100I	A3P125-2PQG208I
		A3P060-CS121	A3P125-2TQ144
		A3P060-CS121I	A3P125-2TQ144I
		A3P060-CSG121	A3P125-2TQG144
		A3P060-CSG121I	A3P125-2TQG144I
		A3P060-FG144	A3P125-2VQ100
		A3P060-FG144I	A3P125-2VQ100I
		A3P060-FG144T	A3P125-2VQG100
		A3P060-FGG144	A3P125-2VQG100I
		A3P060-FGG144I	A3P125-FG144
		A3P060-FGG144T	A3P125-FG144I

	A3P060-TQ144	A3P125-FG144T
	A3P060-TQ144I	A3P125-FGG144
	A3P060-TQG144	A3P125-FGG144I
	A3P060-TQG144I	A3P125-FGG144T
	A3P060-VQ100	A3P125-PQ208
	A3P060-VQ100I	A3P125-PQ208I
	A3P060-VQ100T	A3P125-PQG208
	A3P060-VQG100	A3P125-PQG208I
	A3P060-VQG100I	A3P125-TQ144
	A3P060-VQG100T	A3P125-TQ144I
		A3P125-TQG144
		A3P125-TQG144I
		A3P125-VQ100
		A3P125-VQ100I
		A3P125-VQ100T
		A3P125-VQG100
		A3P125-VQG100I
		A3P125-VQG100T

A3P250	A3P400	A3P600	A3P1000
A3P250-1FG144	A3P400-1FG144	A3P600-1FG144	A3P1000-1FG144
A3P250-1FG144I	A3P400-1FG144I	A3P600-1FG144I	A3P1000-1FG144I
A3P250-1FG144T	A3P400-1FG256	A3P600-1FG256	A3P1000-1FG144M
A3P250-1FG256	A3P400-1FG256I	A3P600-1FG256I	A3P1000-1FG144T
A3P250-1FG256I	A3P400-1FG484	A3P600-1FG484	A3P1000-1FG256
A3P250-1FG256T	A3P400-1FG484I	A3P600-1FG484I	A3P1000-1FG256I
A3P250-1FGG144	A3P400-1FGG144	A3P600-1FGG144	A3P1000-1FG256M
A3P250-1FGG144I	A3P400-1FGG144I	A3P600-1FGG144I	A3P1000-1FG256T
A3P250-1FGG144T	A3P400-1FGG256	A3P600-1FGG256	A3P1000-1FG484
A3P250-1FGG256	A3P400-1FGG256I	A3P600-1FGG256I	A3P1000-1FG484I
A3P250-1FGG256I	A3P400-1FGG484	A3P600-1FGG484	A3P1000-1FG484M
A3P250-1FGG256T	A3P400-1FGG484I	A3P600-1FGG484I	A3P1000-1FG484T
A3P250-1PQ208	A3P400-1PQ208	A3P600-1PQ208	A3P1000-1FGG144
A3P250-1PQ208I	A3P400-1PQ208I	A3P600-1PQ208I	A3P1000-1FGG144I
A3P250-1PQG208	A3P400-1PQG208	A3P600-1PQG208	A3P1000-1FGG144M
A3P250-1PQG208I	A3P400-1PQG208I	A3P600-1PQG208I	A3P1000-1FGG144T
A3P250-1VQ100	A3P400-2FG144	A3P600-2FG144	A3P1000-1FGG256
A3P250-1VQ100I	A3P400-2FG144I	A3P600-2FG144I	A3P1000-1FGG256I
A3P250-1VQ100M	A3P400-2FG256	A3P600-2FG256	A3P1000-1FGG256M
A3P250-1VQ100T	A3P400-2FG256I	A3P600-2FG256I	A3P1000-1FGG256T
A3P250-1VQG100	A3P400-2FG484	A3P600-2FG484	A3P1000-1FGG484

A3P250-1VQG100I	A3P400-2FG484I	A3P600-2FG484I	A3P1000-1FGG484I
A3P250-1VQG100M	A3P400-2FGG144	A3P600-2FGG144	A3P1000-1FGG484M
A3P250-1VQG100T	A3P400-2FGG144I	A3P600-2FGG144I	A3P1000-1FGG484T
A3P250-2FG144	A3P400-2FGG256	A3P600-2FGG256	A3P1000-1PQ208
A3P250-2FG144I	A3P400-2FGG256I	A3P600-2FGG256I	A3P1000-1PQ208I
A3P250-2FG256	A3P400-2FGG484	A3P600-2FGG484	A3P1000-1PQ208M
A3P250-2FG256I	A3P400-2FGG484I	A3P600-2FGG484I	A3P1000-1PQG208
A3P250-2FGG144	A3P400-2PQ208	A3P600-2PQ208	A3P1000-1PQG208I
A3P250-2FGG144I	A3P400-2PQ208I	A3P600-2PQ208I	A3P1000-1PQG208M
A3P250-2FGG256	A3P400-2PQG208	A3P600-2PQG208	A3P1000-2FG144
A3P250-2FGG256I	A3P400-2PQG208I	A3P600-2PQG208I	A3P1000-2FG144I
A3P250-2PQ208	A3P400-FG144	A3P600-FG144	A3P1000-2FG256
A3P250-2PQ208I	A3P400-FG144I	A3P600-FG144I	A3P1000-2FG256I
A3P250-2PQG208	A3P400-FG256	A3P600-FG256	A3P1000-2FG256M
A3P250-2PQG208I	A3P400-FG256I	A3P600-FG256I	A3P1000-2FG484
A3P250-2VQ100	A3P400-FG484	A3P600-FG484	A3P1000-2FG484I
A3P250-2VQ100I	A3P400-FG484I	A3P600-FG484I	A3P1000-2FG484M
A3P250-2VQG100	A3P400-FGG144	A3P600-FGG144	A3P1000-2FGG144
A3P250-2VQG100I	A3P400-FGG144I	A3P600-FGG144I	A3P1000-2FGG144I
A3P250-FG144	A3P400-FGG256	A3P600-FGG256	A3P1000-2FGG256
A3P250-FG144I	A3P400-FGG256I	A3P600-FGG256I	A3P1000-2FGG256I
A3P250-FG144T	A3P400-FGG484	A3P600-FGG484	A3P1000-2FGG256M
A3P250-FG256	A3P400-FGG484I	A3P600-FGG484I	A3P1000-2FGG484
A3P250-FG256I	A3P400-PQ208	A3P600-PQ208	A3P1000-2FGG484I
A3P250-FG256T	A3P400-PQ208I	A3P600-PQ208I	A3P1000-2FGG484M
A3P250-FGG144	A3P400-PQG208	A3P600-PQG208	A3P1000-2PQ208
A3P250-FGG144I	A3P400-PQG208I	A3P600-PQG208I	A3P1000-2PQ208I
A3P250-FGG144T			A3P1000-2PQG208
A3P250-FGG256			A3P1000-2PQG208I
A3P250-FGG256I			A3P1000-FG144
A3P250-FGG256T			A3P1000-FG144I
A3P250-PQ208			A3P1000-FG144M
A3P250-PQ208I			A3P1000-FG144T
A3P250-PQG208			A3P1000-FG256
A3P250-PQG208I			A3P1000-FG256I
A3P250-VQ100			A3P1000-FG256M
A3P250-VQ100I			A3P1000-FG256T
A3P250-VQ100M			A3P1000-FG484
A3P250-VQ100T			A3P1000-FG484I
A3P250-VQG100			A3P1000-FG484M
A3P250-VQG100I			A3P1000-FG484T

A3P250-VQG100M	A3P1000-FGG144
A3P250-VQG100T	A3P1000-FGG144I
	A3P1000-FGG144M
	A3P1000-FGG144T
	A3P1000-FGG256
	A3P1000-FGG256I
	A3P1000-FGG256M
	A3P1000-FGG256T
	A3P1000-FGG484
	A3P1000-FGG484I
	A3P1000-FGG484M
	A3P1000-FGG484T
	A3P1000-PQ208
	A3P1000-PQ208I
	A3P1000-PQ208M
	A3P1000-PQG208
	A3P1000-PQG208I
	A3P1000-PQG208M

A3PN010	A3PN015	A3PN020	A3PN030
A3PN010-1QNG48	A3PN015-1QNG68	A3PN020-1QNG68	A3PN030-Z1QNG68
A3PN010-1QNG48I	A3PN015-1QNG68I	A3PN020-1QNG68I	A3PN030-Z1QNG68I
A3PN010-2QNG48	A3PN015-2QNG68	A3PN020-2QNG68	A3PN030-ZQNG48
A3PN010-2QNG48I	A3PN015-2QNG68I	A3PN020-2QNG68I	A3PN030-ZQNG48I
A3PN010-QNG48	A3PN015-QNG68	A3PN020-QNG68	A3PN030-ZQNG68
A3PN010-QNG48I	A3PN015-QNG68I	A3PN020-QNG68I	A3PN030-ZQNG68I
			A3PN030-ZVQG100
			A3PN030-ZVQG100I

A3PN060	A3PN125	A3PN250
A3PN060-1VQ100	A3PN125-1VQ100	A3PN250-1VQ100
A3PN060-1VQ100I	A3PN125-1VQ100I	A3PN250-1VQ100I
A3PN060-1VQG100	A3PN125-1VQG100	A3PN250-1VQG100
A3PN060-1VQG100I	A3PN125-1VQG100I	A3PN250-1VQG100I
A3PN060-2VQ100	A3PN125-2VQ100	A3PN250-2VQ100
A3PN060-2VQ100I	A3PN125-2VQ100I	A3PN250-2VQ100I
A3PN060-2VQG100	A3PN125-2VQG100	A3PN250-2VQG100
A3PN060-2VQG100I	A3PN125-2VQG100I	A3PN250-2VQG100I
A3PN060-VQ100	A3PN125-VQ100	A3PN250-VQ100
A3PN060-VQ100I	A3PN125-VQ100I	A3PN250-VQ100I
A3PN060-VQG100	A3PN125-VQG100	A3PN250-VQG100

A3PN060-VQG100I	A3PN125-VQG100I	A3PN250-VQG100I
A3PN060-ZVQG100	A3PN125-Z2VQG100	A3PN250-ZVQG100
A3PN060-ZVQG100I	A3PN125-Z2VQG100I	A3PN250-ZVQG100I
A3PN125-ZVQG100		
A3PN125-ZVQG100I		

A3PE600	A3PE1500	A3PE3000
A3PE600-1FG256	A3PE1500-1FG484	A3PE3000-1FG324
A3PE600-1FG256I	A3PE1500-1FG484I	A3PE3000-1FG324I
A3PE600-1FG484	A3PE1500-1FG676	A3PE3000-1FG484
A3PE600-1FG484I	A3PE1500-1FG676I	A3PE3000-1FG484I
A3PE600-1FGG256	A3PE1500-1FGG484	A3PE3000-1FG896
A3PE600-1FGG256I	A3PE1500-1FGG484I	A3PE3000-1FG896I
A3PE600-1FGG484	A3PE1500-1FGG676	A3PE3000-1FGG324
A3PE600-1FGG484I	A3PE1500-1FGG676I	A3PE3000-1FGG324I
A3PE600-1PQ208	A3PE1500-1PQ208	A3PE3000-1FGG484
A3PE600-1PQ208I	A3PE1500-1PQ208I	A3PE3000-1FGG484I
A3PE600-1PQG208	A3PE1500-1PQG208	A3PE3000-1FGG896
A3PE600-1PQG208I	A3PE1500-1PQG208I	A3PE3000-1FGG896I
A3PE600-2FG256	A3PE1500-2FG484	A3PE3000-1PQ208
A3PE600-2FG256I	A3PE1500-2FG484I	A3PE3000-1PQ208I
A3PE600-2FG484	A3PE1500-2FG676	A3PE3000-1PQG208
A3PE600-2FG484I	A3PE1500-2FG676I	A3PE3000-1PQG208I
A3PE600-2FGG256	A3PE1500-2FGG484	A3PE3000-2FG324
A3PE600-2FGG256I	A3PE1500-2FGG484I	A3PE3000-2FG324I
A3PE600-2FGG484	A3PE1500-2FGG676	A3PE3000-2FG484
A3PE600-2FGG484I	A3PE1500-2FGG676I	A3PE3000-2FG484I
A3PE600-2PQ208	A3PE1500-2PQ208	A3PE3000-2FG896
A3PE600-2PQ208I	A3PE1500-2PQ208I	A3PE3000-2FG896I
A3PE600-2PQG208	A3PE1500-2PQG208	A3PE3000-2FGG324
A3PE600-2PQG208I	A3PE1500-2PQG208I	A3PE3000-2FGG324I
A3PE600-FG256	A3PE1500-FG484	A3PE3000-2FGG484
A3PE600-FG256I	A3PE1500-FG484I	A3PE3000-2FGG484I
A3PE600-FG484	A3PE1500-FG676	A3PE3000-2FGG896
A3PE600-FG484I	A3PE1500-FG676I	A3PE3000-2FGG896I
A3PE600-FGG256	A3PE1500-FGG484	A3PE3000-2PQ208
A3PE600-FGG256I	A3PE1500-FGG484I	A3PE3000-2PQ208I
A3PE600-FGG484	A3PE1500-FGG676	A3PE3000-2PQG208
A3PE600-FGG484I	A3PE1500-FGG676I	A3PE3000-2PQG208I
A3PE600-PQ208	A3PE1500-PQ208	A3PE3000-FG324
A3PE600-PQ208I	A3PE1500-PQ208I	A3PE3000-FG324I

A3PE600-PQG208	A3PE1500-PQG208	A3PE3000-FG484
A3PE600-PQG208I	A3PE1500-PQG208I	A3PE3000-FG484I
		A3PE3000-FG896
		A3PE3000-FG896I
		A3PE3000-FGG324
		A3PE3000-FGG324I
		A3PE3000-FGG484
		A3PE3000-FGG484I
		A3PE3000-FGG896
		A3PE3000-FGG896I
		A3PE3000-PQ208
		A3PE3000-PQ208I
		A3PE3000-PQG208
		A3PE3000-PQG208I

A3P250L	A3P600L	A3P1000L
A3P250L-1FG144	A3P600L-1FG144	A3P1000L-1FG144
A3P250L-1FG144I	A3P600L-1FG144I	A3P1000L-1FG144I
A3P250L-1FG256	A3P600L-1FG256	A3P1000L-1FG256
A3P250L-1FG256I	A3P600L-1FG256I	A3P1000L-1FG256I
A3P250L-1FGG144	A3P600L-1FG484	A3P1000L-1FG484
A3P250L-1FGG144I	A3P600L-1FG484I	A3P1000L-1FG484I
A3P250L-1FGG256	A3P600L-1FGG144	A3P1000L-1FGG144
A3P250L-1FGG256I	A3P600L-1FGG144I	A3P1000L-1FGG144I
A3P250L-1PQ208	A3P600L-1FGG256	A3P1000L-1FGG256
A3P250L-1PQ208I	A3P600L-1FGG256I	A3P1000L-1FGG256I
A3P250L-1PQG208	A3P600L-1FGG484	A3P1000L-1FGG484
A3P250L-1PQG208I	A3P600L-1FGG484I	A3P1000L-1FGG484I
A3P250L-1VQ100	A3P600L-1PQ208	A3P1000L-1PQ208
A3P250L-1VQ100I	A3P600L-1PQ208I	A3P1000L-1PQ208I
A3P250L-1VQG100	A3P600L-1PQG208	A3P1000L-1PQG208
A3P250L-1VQG100I	A3P600L-1PQG208I	A3P1000L-1PQG208I
A3P250L-FG144	A3P600L-FG144	A3P1000L-FG144
A3P250L-FG144I	A3P600L-FG144I	A3P1000L-FG144I
A3P250L-FG256	A3P600L-FG256	A3P1000L-FG256
A3P250L-FG256I	A3P600L-FG256I	A3P1000L-FG256I
A3P250L-FGG144	A3P600L-FG484	A3P1000L-FG484
A3P250L-FGG144I	A3P600L-FG484I	A3P1000L-FG484I
A3P250L-FGG256	A3P600L-FGG144	A3P1000L-FGG144
A3P250L-FGG256I	A3P600L-FGG144I	A3P1000L-FGG144I
A3P250L-PQ208	A3P600L-FGG256	A3P1000L-FGG256

A3P250L-PQ208I	A3P600L-FGG256I	A3P1000L-FGG256I
A3P250L-PQG208	A3P600L-FGG484	A3P1000L-FGG484
A3P250L-PQG208I	A3P600L-FGG484I	A3P1000L-FGG484I
A3P250L-VQ100	A3P600L-PQ208	A3P1000L-PQ208
A3P250L-VQ100I	A3P600L-PQ208I	A3P1000L-PQ208I
A3P250L-VQG100	A3P600L-PQG208	A3P1000L-PQG208
A3P250L-VQG100I	A3P600L-PQG208I	A3P1000L-PQG208I

A3PE600L	A3PE3000L
A3PE600L-1FG484M	A3PE3000L-1FG324
A3PE600L-1FGG484M	A3PE3000L-1FG324I
A3PE600L-FG484M	A3PE3000L-1FG484
A3PE600L-FGG484M	A3PE3000L-1FG484I
	A3PE3000L-1FG484M
	A3PE3000L-1FG896
	A3PE3000L-1FG896I
	A3PE3000L-1FG896M
	A3PE3000L-1FGG324
	A3PE3000L-1FGG324I
	A3PE3000L-1FGG484
	A3PE3000L-1FGG484I
	A3PE3000L-1FGG484M
	A3PE3000L-1FGG896
	A3PE3000L-1FGG896I
	A3PE3000L-1FGG896M
	A3PE3000L-1PQ208
	A3PE3000L-1PQ208I
	A3PE3000L-1PQG208
	A3PE3000L-1PQG208I
	A3PE3000L-FG324
	A3PE3000L-FG324I
	A3PE3000L-FG484
	A3PE3000L-FG484I
	A3PE3000L-FG484M
	A3PE3000L-FG896
	A3PE3000L-FG896I
	A3PE3000L-FG896M
	A3PE3000L-FGG324
	A3PE3000L-FGG324I
	A3PE3000L-FGG484
	A3PE3000L-FGG484I

A3PE3000L-FGG484M
A3PE3000L-FGG896
A3PE3000L-FGG896I
A3PE3000L-FGG896M
A3PE3000L-PQ208
A3PE3000L-PQ208I
A3PE3000L-PQG208
A3PE3000L-PQG208I

M1A3P250	M1A3P400	M1A3P600	M1A3P1000
M1A3P250-1FG144	M1A3P400-1FG144	M1A3P600-1FG144	M1A3P1000-1FG144
M1A3P250-1FG144I	M1A3P400-1FG144I	M1A3P600-1FG144I	M1A3P1000-1FG144I
M1A3P250-1FGG144	M1A3P400-1FG256	M1A3P600-1FG256	M1A3P1000-1FG144M
M1A3P250-1FGG144I	M1A3P400-1FG256I	M1A3P600-1FG256I	M1A3P1000-1FG256
M1A3P250-1PQ208	M1A3P400-1FG484	M1A3P600-1FG484	M1A3P1000-1FG256I
M1A3P250-1PQ208I	M1A3P400-1FG484I	M1A3P600-1FG484I	M1A3P1000-1FG484
M1A3P250-1PQG208	M1A3P400-1FGG144	M1A3P600-1FGG144	M1A3P1000-1FG484I
M1A3P250-1PQG208I	M1A3P400-1FGG144I	M1A3P600-1FGG144I	M1A3P1000-1FGG144
M1A3P250-1VQ100	M1A3P400-1FGG256	M1A3P600-1FGG256	M1A3P1000-1FGG144I
M1A3P250-1VQ100I	M1A3P400-1FGG256I	M1A3P600-1FGG256I	M1A3P1000-1FGG144M
M1A3P250-1VQG100	M1A3P400-1FGG484	M1A3P600-1FGG484	M1A3P1000-1FGG256
M1A3P250-1VQG100I	M1A3P400-1FGG484I	M1A3P600-1FGG484I	M1A3P1000-1FGG256I
M1A3P250-2FG144	M1A3P400-1PQ208	M1A3P600-1PQ208	M1A3P1000-1FGG484
M1A3P250-2FG144I	M1A3P400-1PQ208I	M1A3P600-1PQ208I	M1A3P1000-1FGG484I
M1A3P250-2FGG144	M1A3P400-1PQG208	M1A3P600-1PQG208	M1A3P1000-1PQ208
M1A3P250-2FGG144I	M1A3P400-1PQG208I	M1A3P600-1PQG208I	M1A3P1000-1PQ208I
M1A3P250-2PQ208	M1A3P400-2FG144	M1A3P600-2FG144	M1A3P1000-1PQ208M
M1A3P250-2PQ208I	M1A3P400-2FG144I	M1A3P600-2FG144I	M1A3P1000-1PQG208
M1A3P250-2PQG208	M1A3P400-2FG256	M1A3P600-2FG256	M1A3P1000-1PQG208I
M1A3P250-2PQG208I	M1A3P400-2FG256I	M1A3P600-2FG256I	M1A3P1000-1PQG208M
M1A3P250-2VQ100	M1A3P400-2FG484	M1A3P600-2FG484	M1A3P1000-2FG144
M1A3P250-2VQ100I	M1A3P400-2FG484I	M1A3P600-2FG484I	M1A3P1000-2FG144I
M1A3P250-2VQG100	M1A3P400-2FGG144	M1A3P600-2FGG144	M1A3P1000-2FG256
M1A3P250-2VQG100I	M1A3P400-2FGG144I	M1A3P600-2FGG144I	M1A3P1000-2FG256I
M1A3P250-FG144	M1A3P400-2FGG256	M1A3P600-2FGG256	M1A3P1000-2FG484
M1A3P250-FG144I	M1A3P400-2FGG256I	M1A3P600-2FGG256I	M1A3P1000-2FG484I
M1A3P250-FGG144	M1A3P400-2FGG484	M1A3P600-2FGG484	M1A3P1000-2FGG144
M1A3P250-FGG144I	M1A3P400-2FGG484I	M1A3P600-2FGG484I	M1A3P1000-2FGG144I
M1A3P250-PQ208	M1A3P400-2PQ208	M1A3P600-2PQ208	M1A3P1000-2FGG256
M1A3P250-PQ208I	M1A3P400-2PQ208I	M1A3P600-2PQ208I	M1A3P1000-2FGG256I
M1A3P250-PQG208	M1A3P400-2PQG208	M1A3P600-2PQG208	M1A3P1000-2FGG484

M1A3P250-PQG208I	M1A3P400-2PQG208I	M1A3P600-2PQG208I	M1A3P1000-2FGG484I
M1A3P250-VQ100	M1A3P400-FG144	M1A3P600-FG144	M1A3P1000-2PQ208
M1A3P250-VQ100I	M1A3P400-FG144I	M1A3P600-FG144I	M1A3P1000-2PQ208I
M1A3P250-VQG100	M1A3P400-FG256	M1A3P600-FG256	M1A3P1000-2PQG208
M1A3P250-VQG100I	M1A3P400-FG256I	M1A3P600-FG256I	M1A3P1000-2PQG208I
	M1A3P400-FG484	M1A3P600-FG484	M1A3P1000-FG144
	M1A3P400-FG484I	M1A3P600-FG484I	M1A3P1000-FG144I
	M1A3P400-FGG144	M1A3P600-FGG144	M1A3P1000-FG144M
	M1A3P400-FGG144I	M1A3P600-FGG144I	M1A3P1000-FG256
	M1A3P400-FGG256	M1A3P600-FGG256	M1A3P1000-FG256I
	M1A3P400-FGG256I	M1A3P600-FGG256I	M1A3P1000-FG484
	M1A3P400-FGG484	M1A3P600-FGG484	M1A3P1000-FG484I
	M1A3P400-FGG484I	M1A3P600-FGG484I	M1A3P1000-FGG144
	M1A3P400-PQ208	M1A3P600-PQ208	M1A3P1000-FGG144I
	M1A3P400-PQ208I	M1A3P600-PQ208I	M1A3P1000-FGG144M
	M1A3P400-PQG208	M1A3P600-PQG208	M1A3P1000-FGG256
	M1A3P400-PQG208I	M1A3P600-PQG208I	M1A3P1000-FGG256I
			M1A3P1000-FGG484
			M1A3P1000-FGG484I
			M1A3P1000-PQ208
			M1A3P1000-PQ208I
			M1A3P1000-PQ208M
			M1A3P1000-PQG208
			M1A3P1000-PQG208I
			M1A3P1000-PQG208M

M1A3P600L	M1A3P1000L
M1A3P600L-1FG144	M1A3P1000L-1FG144
M1A3P600L-1FG144I	M1A3P1000L-1FG144I
M1A3P600L-1FG256	M1A3P1000L-1FG256
M1A3P600L-1FG256I	M1A3P1000L-1FG256I
M1A3P600L-1FG484	M1A3P1000L-1FG484
M1A3P600L-1FG484I	M1A3P1000L-1FG484I
M1A3P600L-1FGG144	M1A3P1000L-1FGG144
M1A3P600L-1FGG144I	M1A3P1000L-1FGG144I
M1A3P600L-1FGG256	M1A3P1000L-1FGG256
M1A3P600L-1FGG256I	M1A3P1000L-1FGG256I
M1A3P600L-1FGG484	M1A3P1000L-1FGG484
M1A3P600L-1FGG484I	M1A3P1000L-1FGG484I
M1A3P600L-1PQ208	M1A3P1000L-1PQ208
M1A3P600L-1PQ208I	M1A3P1000L-1PQ208I

M1A3P600L-1PQG208	M1A3P1000L-1PQG208
M1A3P600L-1PQG208I	M1A3P1000L-1PQG208I
M1A3P600L-FG144	M1A3P1000L-FG144
M1A3P600L-FG144I	M1A3P1000L-FG144I
M1A3P600L-FG256	M1A3P1000L-FG256
M1A3P600L-FG256I	M1A3P1000L-FG256I
M1A3P600L-FG484	M1A3P1000L-FG484
M1A3P600L-FG484I	M1A3P1000L-FG484I
M1A3P600L-FGG144	M1A3P1000L-FGG144
M1A3P600L-FGG144I	M1A3P1000L-FGG144I
M1A3P600L-FGG256	M1A3P1000L-FGG256
M1A3P600L-FGG256I	M1A3P1000L-FGG256I
M1A3P600L-FGG484	M1A3P1000L-FGG484
M1A3P600L-FGG484I	M1A3P1000L-FGG484I
M1A3P600L-PQ208	M1A3P1000L-PQ208
M1A3P600L-PQ208I	M1A3P1000L-PQ208I
M1A3P600L-PQG208	M1A3P1000L-PQG208
M1A3P600L-PQG208I	M1A3P1000L-PQG208I

M1A3PE1500	M1A3PE3000
M1A3PE1500-1FG484	M1A3PE3000-1FG324
M1A3PE1500-1FG484I	M1A3PE3000-1FG324I
M1A3PE1500-1FG676	M1A3PE3000-1FG484
M1A3PE1500-1FG676I	M1A3PE3000-1FG484I
M1A3PE1500-1FGG484	M1A3PE3000-1FG896
M1A3PE1500-1FGG484I	M1A3PE3000-1FG896I
M1A3PE1500-1FGG676	M1A3PE3000-1FGG324
M1A3PE1500-1FGG676I	M1A3PE3000-1FGG324I
M1A3PE1500-1PQ208	M1A3PE3000-1FGG484
M1A3PE1500-1PQ208I	M1A3PE3000-1FGG484I
M1A3PE1500-1PQG208	M1A3PE3000-1FGG896
M1A3PE1500-1PQG208I	M1A3PE3000-1FGG896I
M1A3PE1500-2FG484	M1A3PE3000-1PQ208
M1A3PE1500-2FG484I	M1A3PE3000-1PQ208I
M1A3PE1500-2FG676	M1A3PE3000-1PQG208
M1A3PE1500-2FG676I	M1A3PE3000-1PQG208I
M1A3PE1500-2FGG484	M1A3PE3000-2FG324
M1A3PE1500-2FGG484I	M1A3PE3000-2FG324I
M1A3PE1500-2FGG676	M1A3PE3000-2FG484
M1A3PE1500-2FGG676I	M1A3PE3000-2FG484I
M1A3PE1500-2PQ208	M1A3PE3000-2FG896

M1A3PE1500-2PQ208I	M1A3PE3000-2FG896I
M1A3PE1500-2PQG208	M1A3PE3000-2FGG324
M1A3PE1500-2PQG208I	M1A3PE3000-2FGG324I
M1A3PE1500-FG484	M1A3PE3000-2FGG484
M1A3PE1500-FG484I	M1A3PE3000-2FGG484I
M1A3PE1500-FG676	M1A3PE3000-2FGG896
M1A3PE1500-FG676I	M1A3PE3000-2FGG896I
M1A3PE1500-FGG484	M1A3PE3000-2PQ208
M1A3PE1500-FGG484I	M1A3PE3000-2PQ208I
M1A3PE1500-FGG676	M1A3PE3000-2PQG208
M1A3PE1500-FGG676I	M1A3PE3000-2PQG208I
M1A3PE1500-PQ208	M1A3PE3000-FG324
M1A3PE1500-PQ208I	M1A3PE3000-FG324I
M1A3PE1500-PQG208	M1A3PE3000-FG484
M1A3PE1500-PQG208I	M1A3PE3000-FG484I
	M1A3PE3000-FG896
	M1A3PE3000-FG896I
	M1A3PE3000-FGG324
	M1A3PE3000-FGG324I
	M1A3PE3000-FGG484
	M1A3PE3000-FGG484I
	M1A3PE3000-FGG896
	M1A3PE3000-FGG896I
	M1A3PE3000-PQ208
	M1A3PE3000-PQ208I
	M1A3PE3000-PQG208
	M1A3PE3000-PQG208I

M1A3PE3000L

M1A3PE3000L-1FG484
M1A3PE3000L-1FG484I
M1A3PE3000L-1FG484M
M1A3PE3000L-1FG896
M1A3PE3000L-1FG896I
M1A3PE3000L-1FG896M
M1A3PE3000L-1FGG484
M1A3PE3000L-1FGG484I
M1A3PE3000L-1FGG484M
M1A3PE3000L-1FGG896
M1A3PE3000L-1FGG896I
M1A3PE3000L-1FGG896M

M1A3PE3000L-1PQ208
M1A3PE3000L-1PQ208I
M1A3PE3000L-1PQG208
M1A3PE3000L-1PQG208I
M1A3PE3000L-FG484
M1A3PE3000L-FG484I
M1A3PE3000L-FG484M
M1A3PE3000L-FG896
M1A3PE3000L-FG896I
M1A3PE3000L-FG896M
M1A3PE3000L-FGG484
M1A3PE3000L-FGG484I
M1A3PE3000L-FGG484M
M1A3PE3000L-FGG896
M1A3PE3000L-FGG896I
M1A3PE3000L-FGG896M
M1A3PE3000L-PQ208
M1A3PE3000L-PQ208I
M1A3PE3000L-PQG208
M1A3PE3000L-PQG208I

M7A3P1000
M7A3P1000-1FG144
M7A3P1000-1FG144I
M7A3P1000-1FG256
M7A3P1000-1FG256I
M7A3P1000-1FG484
M7A3P1000-1FG484I
M7A3P1000-1FGG144
M7A3P1000-1FGG144I
M7A3P1000-1FGG256
M7A3P1000-1FGG256I
M7A3P1000-1FGG484
M7A3P1000-1FGG484I
M7A3P1000-1PQ208
M7A3P1000-1PQ208I
M7A3P1000-1PQG208
M7A3P1000-1PQG208I
M7A3P1000-2FG144
M7A3P1000-2FG144I
M7A3P1000-2FG256

M7A3P1000-2FG256I

M7A3P1000-2FG484

M7A3P1000-2FG484I

M7A3P1000-2FGG144

M7A3P1000-2FGG144I

M7A3P1000-2FGG256

M7A3P1000-2FGG256I

M7A3P1000-2FGG484

M7A3P1000-2FGG484I

M7A3P1000-2PQ208

M7A3P1000-2PQ208I

M7A3P1000-2PQG208

M7A3P1000-2PQG208I

M7A3P1000-FG144

M7A3P1000-FG144I

M7A3P1000-FG256

M7A3P1000-FG256I

M7A3P1000-FG484

M7A3P1000-FG484I

M7A3P1000-FGG144

M7A3P1000-FGG144I

M7A3P1000-FGG256

M7A3P1000-FGG256I

M7A3P1000-FGG484

M7A3P1000-FGG484I

M7A3P1000-PQ208

M7A3P1000-PQ208I

M7A3P1000-PQG208

M7A3P1000-PQG208I

Fusion Device List

AFS090	AFS250	AFS600	AFS1500
AFS090-1FG256	AFS250-1FG256	AFS600-1FG256	AFS1500-1FG256
AFS090-1FG256I	AFS250-1FG256I	AFS600-1FG256I	AFS1500-1FG256I
AFS090-1FGG256	AFS250-1FGG256	AFS600-1FG256K	AFS1500-1FG256K
AFS090-1FGG256I	AFS250-1FGG256I	AFS600-1FG484	AFS1500-1FG484
AFS090-2FG256	AFS250-2FG256	AFS600-1FG484I	AFS1500-1FG484I
AFS090-2FG256I	AFS250-2FG256I	AFS600-1FG484K	AFS1500-1FG484K
AFS090-2FGG256	AFS250-2FGG256	AFS600-1FGG256	AFS1500-1FG676
AFS090-2FGG256I	AFS250-2FGG256I	AFS600-1FGG256I	AFS1500-1FG676I
AFS090-FG256	AFS250-FG256	AFS600-1FGG256K	AFS1500-1FGG256
AFS090-FG256I	AFS250-FG256I	AFS600-1FGG484	AFS1500-1FGG256I
AFS090-FGG256	AFS250-FGG256	AFS600-1FGG484I	AFS1500-1FGG256K
AFS090-FGG256I	AFS250-FGG256I	AFS600-1FGG484K	AFS1500-1FGG484
		AFS600-2FG256	AFS1500-1FGG484I
		AFS600-2FG256I	AFS1500-1FGG484K
		AFS600-2FG484	AFS1500-1FGG676
		AFS600-2FG484I	AFS1500-1FGG676I
		AFS600-2FGG256	AFS1500-2FG256
		AFS600-2FGG256I	AFS1500-2FG256I
		AFS600-2FGG484	AFS1500-2FG484
		AFS600-2FGG484I	AFS1500-2FG484I
		AFS600-FG256	AFS1500-2FG676
		AFS600-FG256I	AFS1500-2FG676I
		AFS600-FG256K	AFS1500-2FGG256
		AFS600-FG484	AFS1500-2FGG256I
		AFS600-FG484I	AFS1500-2FGG484
		AFS600-FG484K	AFS1500-2FGG484I
		AFS600-FGG256	AFS1500-2FGG676
		AFS600-FGG256I	AFS1500-2FGG676I
		AFS600-FGG256K	AFS1500-FG256
		AFS600-FGG484	AFS1500-FG256I
		AFS600-FGG484I	AFS1500-FG256K
		AFS600-FGG484K	AFS1500-FG484
			AFS1500-FG484I
			AFS1500-FG484K
			AFS1500-FG676
			AFS1500-FG676I
			AFS1500-FGG256
			AFS1500-FGG256I

AFS1500-FGG256K
AFS1500-FGG484
AFS1500-FGG484I
AFS1500-FGG484K
AFS1500-FGG676
AFS1500-FGG676I

M1AFS250	M1AFS600	M1AFS1500
M1AFS250-1FG256	M1AFS600-1FG256	M1AFS1500-1FG256
M1AFS250-1FG256I	M1AFS600-1FG256I	M1AFS1500-1FG256I
M1AFS250-1FGG256	M1AFS600-1FG256K	M1AFS1500-1FG256K
M1AFS250-1FGG256I	M1AFS600-1FG484	M1AFS1500-1FG484
M1AFS250-2FG256	M1AFS600-1FG484I	M1AFS1500-1FG484I
M1AFS250-2FG256I	M1AFS600-1FG484K	M1AFS1500-1FG484K
M1AFS250-2FGG256	M1AFS600-1FGG256	M1AFS1500-1FG676
M1AFS250-2FGG256I	M1AFS600-1FGG256I	M1AFS1500-1FG676I
M1AFS250-FG256	M1AFS600-1FGG256K	M1AFS1500-1FGG256
M1AFS250-FG256I	M1AFS600-1FGG484	M1AFS1500-1FGG256I
M1AFS250-FGG256	M1AFS600-1FGG484I	M1AFS1500-1FGG256K
M1AFS250-FGG256I	M1AFS600-1FGG484K	M1AFS1500-1FGG484
	M1AFS600-2FG256	M1AFS1500-1FGG484I
	M1AFS600-2FG256I	M1AFS1500-1FGG484K
	M1AFS600-2FG484	M1AFS1500-1FGG676
	M1AFS600-2FG484I	M1AFS1500-1FGG676I
	M1AFS600-2FGG256	M1AFS1500-2FG256
	M1AFS600-2FGG256I	M1AFS1500-2FG256I
	M1AFS600-2FGG484	M1AFS1500-2FG484
	M1AFS600-2FGG484I	M1AFS1500-2FG484I
	M1AFS600-FG256	M1AFS1500-2FG676
	M1AFS600-FG256I	M1AFS1500-2FG676I
	M1AFS600-FG256K	M1AFS1500-2FGG256
	M1AFS600-FG484	M1AFS1500-2FGG256I
	M1AFS600-FG484I	M1AFS1500-2FGG484
	M1AFS600-FG484K	M1AFS1500-2FGG484I
	M1AFS600-FGG256	M1AFS1500-2FGG676
	M1AFS600-FGG256I	M1AFS1500-2FGG676I
	M1AFS600-FGG256K	M1AFS1500-FG256
	M1AFS600-FGG484	M1AFS1500-FG256I
	M1AFS600-FGG484I	M1AFS1500-FG256K
	M1AFS600-FGG484K	M1AFS1500-FG484
		M1AFS1500-FG484I

M1AFS1500-FG484K
M1AFS1500-FG676
M1AFS1500-FG676I
M1AFS1500-FGG256
M1AFS1500-FGG256I
M1AFS1500-FGG256K
M1AFS1500-FGG484
M1AFS1500-FGG484I
M1AFS1500-FGG484K
M1AFS1500-FGG676
M1AFS1500-FGG676I

M7AFS600
M7AFS600-1FG256
M7AFS600-1FG256I
M7AFS600-1FG484
M7AFS600-1FG484I
M7AFS600-1FGG256
M7AFS600-1FGG256I
M7AFS600-1FGG484
M7AFS600-1FGG484I
M7AFS600-2FG256
M7AFS600-2FG256I
M7AFS600-2FG484
M7AFS600-2FG484I
M7AFS600-2FGG256
M7AFS600-2FGG256I
M7AFS600-2FGG484
M7AFS600-2FGG484I
M7AFS600-FG256
M7AFS600-FG256I
M7AFS600-FG484
M7AFS600-FG484I
M7AFS600-FGG256
M7AFS600-FGG256I
M7AFS600-FGG484
M7AFS600-FGG484I

P1AFS600	P1AFS1500
P1AFS600-2FG256	P1AFS1500-2FG256
P1AFS600-2FG256I	P1AFS1500-2FG256I

P1AFS600-2FG484	P1AFS1500-2FG484
P1AFS600-2FG484I	P1AFS1500-2FG484I
P1AFS600-2FGG256	P1AFS1500-2FGG256
P1AFS600-2FGG256I	P1AFS1500-2FGG256I
P1AFS600-2FGG484	P1AFS1500-2FGG484
P1AFS600-2FGG484I	P1AFS1500-2FGG484I

U1AFS250	U1AFS600	U1AFS1500
U1AFS250-FG256	U1AFS600-FG256	U1AFS1500-FG256
U1AFS250-FG256I	U1AFS600-FG256I	U1AFS1500-FG256I
U1AFS250-FGG256	U1AFS600-FGG256	U1AFS1500-FGG256
U1AFS250-FGG256I	U1AFS600-FGG256I	U1AFS1500-FGG256I

SmartFusion Device List

A2F060	A2F200	A2F500
A2F060M3E-1CS288	A2F200M3F-1CS288	A2F500M3G-1CS288
A2F060M3E-1CS288I	A2F200M3F-1CS288I	A2F500M3G-1CS288I
A2F060M3E-1CSG288	A2F200M3F-1CSG288	A2F500M3G-1CSG288
A2F060M3E-1CSG288I	A2F200M3F-1CSG288I	A2F500M3G-1CSG288I
A2F060M3E-1FG256	A2F200M3F-1FG256	A2F500M3G-1FG256
A2F060M3E-1FG256I	A2F200M3F-1FG256I	A2F500M3G-1FG256I
A2F060M3E-1FG256M	A2F200M3F-1FG484	A2F500M3G-1FG256M
A2F060M3E-1FGG256	A2F200M3F-1FG484I	A2F500M3G-1FG484
A2F060M3E-1FGG256I	A2F200M3F-1FGG256	A2F500M3G-1FG484I
A2F060M3E-1FGG256M	A2F200M3F-1FGG256I	A2F500M3G-1FG484M
A2F060M3E-1TQ144	A2F200M3F-1FGG484	A2F500M3G-1FGG256
A2F060M3E-1TQ144I	A2F200M3F-1FGG484I	A2F500M3G-1FGG256I
A2F060M3E-1TQG144	A2F200M3F-1PQ208	A2F500M3G-1FGG256M
A2F060M3E-1TQG144I	A2F200M3F-1PQ208I	A2F500M3G-1FGG484
A2F060M3E-CS288	A2F200M3F-1PQG208	A2F500M3G-1FGG484I
A2F060M3E-CS288I	A2F200M3F-1PQG208I	A2F500M3G-1FGG484M
A2F060M3E-CSG288	A2F200M3F-CS288	A2F500M3G-1PQ208
A2F060M3E-CSG288I	A2F200M3F-CS288I	A2F500M3G-1PQ208I
A2F060M3E-FG256	A2F200M3F-CSG288	A2F500M3G-1PQG208
A2F060M3E-FG256I	A2F200M3F-CSG288I	A2F500M3G-1PQG208I
A2F060M3E-FG256M	A2F200M3F-FG256	A2F500M3G-CS288
A2F060M3E-FGG256	A2F200M3F-FG256I	A2F500M3G-CS288I
A2F060M3E-FGG256I	A2F200M3F-FG484	A2F500M3G-CSG288
A2F060M3E-FGG256M	A2F200M3F-FG484I	A2F500M3G-CSG288I
A2F060M3E-TQ144	A2F200M3F-FGG256	A2F500M3G-FG256
A2F060M3E-TQ144I	A2F200M3F-FGG256I	A2F500M3G-FG256I
A2F060M3E-TQG144	A2F200M3F-FGG484	A2F500M3G-FG256M
A2F060M3E-TQG144I	A2F200M3F-FGG484I	A2F500M3G-FG484
	A2F200M3F-PQ208	A2F500M3G-FG484I
	A2F200M3F-PQ208I	A2F500M3G-FG484M
	A2F200M3F-PQG208	A2F500M3G-FGG256
	A2F200M3F-PQG208I	A2F500M3G-FGG256I
		A2F500M3G-FGG256M
		A2F500M3G-FGG484
		A2F500M3G-FGG484I
		A2F500M3G-FGG484M
		A2F500M3G-PQ208
		A2F500M3G-PQ208I

 A2F500M3G-PQG208

 A2F500M3G-PQG208I

RT ProASIC3 Device List

RT3PE600L		RT3PE3000L	
Part Number	SMD Number	Part Number	SMD Number
RT3PE600L-1CG484B	5962-1520302QUF	RT3PE3000L-1CG484B	5962-1520202QUF
RT3PE600L-1CG484E	5962-1520304QUF	RT3PE3000L-1CG484E	5962-1520204QUF
RT3PE600L-1CQ256B	5962-1520302QXC	RT3PE3000L-1CG896B	5962-1520202QLF
RT3PE600L-1CQ256E	5962-1520304QXC	RT3PE3000L-1CG896E	5962-1520204QLF
RT3PE600L-1LG484B	5962-1520302QZC	RT3PE3000L-1CQ256B	5962-1520202QXC
RT3PE600L-1LG484E	5962-1520304QZC	RT3PE3000L-1CQ256E	5962-1520204QXC
RT3PE600L-CG484B	5962-1520301QUF	RT3PE3000L-1LG484B	5962-1520202QZC
RT3PE600L-CG484E	5962-1520303QUF	RT3PE3000L-1LG484E	5962-1520204QZC
RT3PE600L-CQ256B	5962-1520301QXC	RT3PE3000L-1LG896B	5962-1520202QKC
RT3PE600L-CQ256E	5962-1520303QXC	RT3PE3000L-1LG896E	5962-1520204QKC
RT3PE600L-LG484B	5962-1520301QZC	RT3PE3000L-CG484B	5962-1520201QUF
RT3PE600L-LG484E	5962-1520303QZC	RT3PE3000L-CG484E	5962-1520203QUF
		RT3PE3000L-CG896B	5962-1520201QLF
		RT3PE3000L-CG896E	5962-1520203QLF
		RT3PE3000L-CQ256B	5962-1520201QXC
		RT3PE3000L-CQ256E	5962-1520203QXC
		RT3PE3000L-LG484B	5962-1520201QZC
		RT3PE3000L-LG484E	5962-1520203QZC
		RT3PE3000L-LG896B	5962-1520201QKC
		RT3PE3000L-LG896E	5962-1520203QKC

**Microsemi Corporate Headquarters**

One Enterprise, Aliso Viejo,
CA 92656 USA
Within the USA: +1 (800) 713-4113
Outside the USA: +1 (949) 380-6100
Fax: +1 (949) 215-4996
Email: sales.support@microsemi.com
www.microsemi.com

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