

MX69N MCPs

Multiplexed, 1.8V Burst-mode

64 Megabit

(Data Sheet)

Key Features

- *Industrial Grade (Temperature = -40°C to 85°C)*
- *Combine MX29NS-E with pSRAM*
- *52-ball TFBGA Package (6.0x6.0mm)*

MCP FEATURES

- Power supply voltage of 1.7V to 1.95V
- Burst Read: 108MHz
- Package - MCP BGA: 0.5mm ball pitch
 - 6.0 x 6.0mm, 52 ball
- Operating Temperature Range
 - Industrial, -40°C to +85°C

Product Description

This MX69N-E product series combine MX29NS-E with pSRAM in a Multi-Chip package. For detailed specifications, please refer to the individual datasheet.



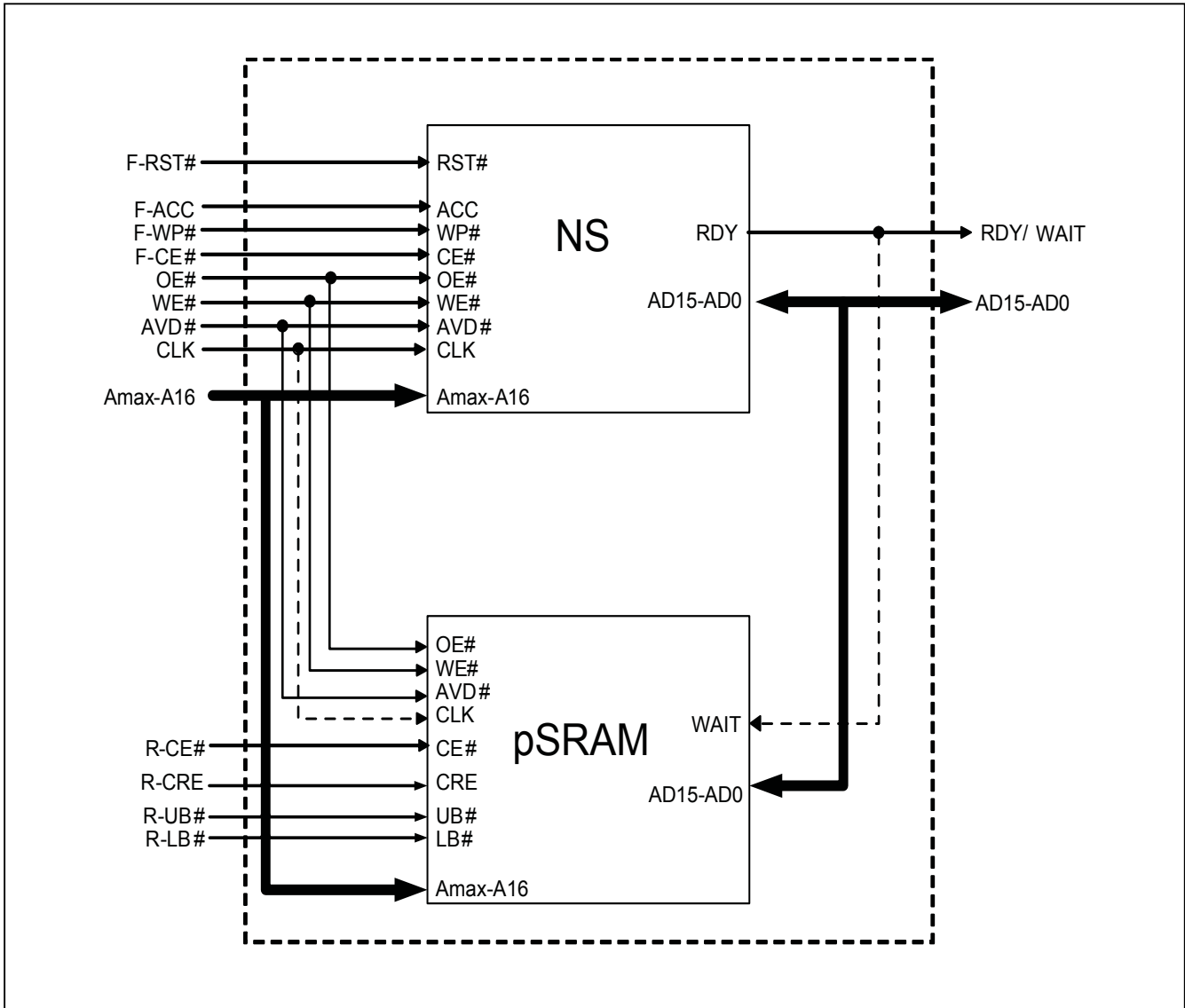
MACRONIX
INTERNATIONAL Co., LTD.

MX69N-E
(6x6mm 52-TFBGA)

Product Selection Guide

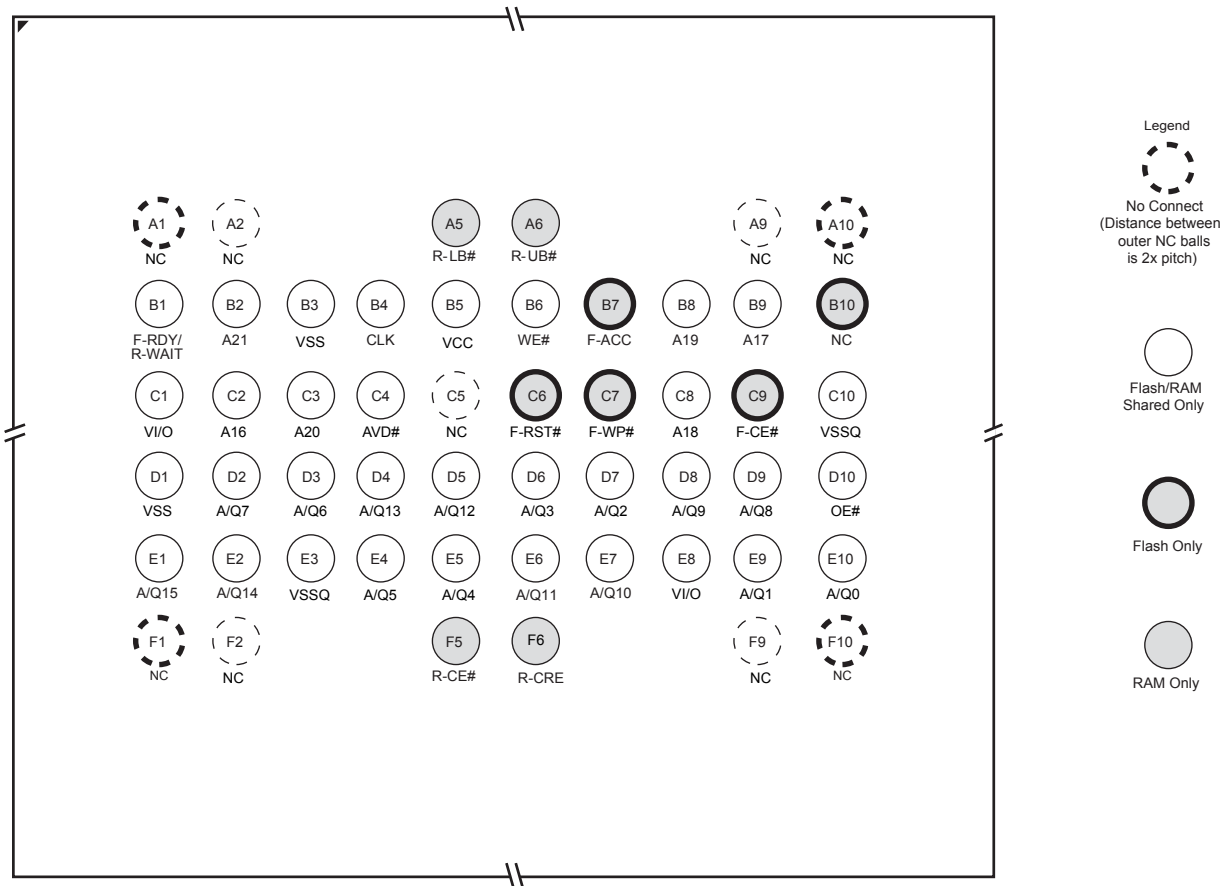
Device	Flash Density	Flash Speed	pSRAM Speed	Package Type
MX69N64E32MXPI	64Mb	108MHz	108MHz	6.0x6.0 52-TFBGA

BLOCK DIAGRAM



PIN CONFIGURATIONS

pSRAM Based Pinout, 52-Ball, TFBGA (6.0 x 6.0mm)
(Top View, Balls Facing Down)



Notes

1. Addresses are shared between Flash and RAM depending on the density of the pSRAM.

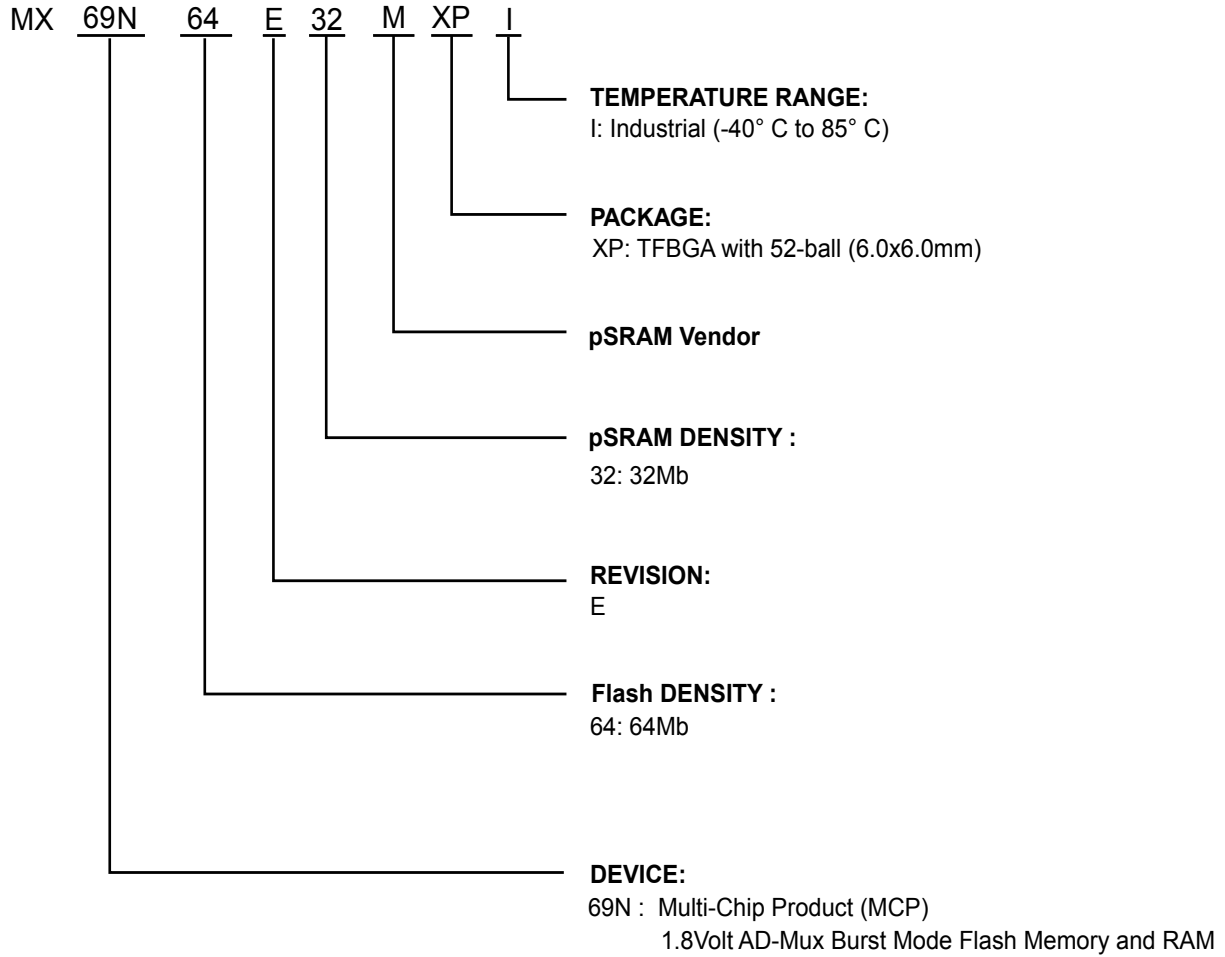
MCP	Flash-only Addresses	Shared Addresses	Shared AQ Pins
MX69N64E32	A21	A20~A16	AQ15-AQ0



PIN DESCRIPTION

SYMBOL	DESCRIPTION	Flash	RAM
Amax-A16	Address Inputs	V	V
A/Q15~A/Q0	Multiplexed Data Inputs/Outputs	V	V
OE#	Output Enable Input	V	V
WE#	Write Enable Input	V	V
VCC	Device Power Supply (1.70V~1.95V)	V	V
VI/O	Input/Output Power Supply (1.70V~1.95V)	V	V
VSS	Device Ground	V	V
VSSQ	Input/Output Ground	V	V
NC	No Connection	V	V
RDY	Ready output, the status of the Burst Read	V	V
	Refer to configuration register table		
CLK	Clock	V	V
AVD#	Address Valid Data input.	V	V
F-RBST#	Hardware Reset Pin, Active Low	V	
F-WP#	Hardware Write Protect	V	
F-ACC	Programming Acceleration Input	V	
R-CE#	Chip-enable input for pSRAM.		V
F-CE#	Chip-enable input for Flash. Asynchronous relative to CLK for Burst Mode.	V	
R-CRE	Control Register Enable (pSRAM).		V
R-UB#	Upper Byte Control (pSRAM).		V
R-LB#	Lower Byte Control (pSRAM).		V

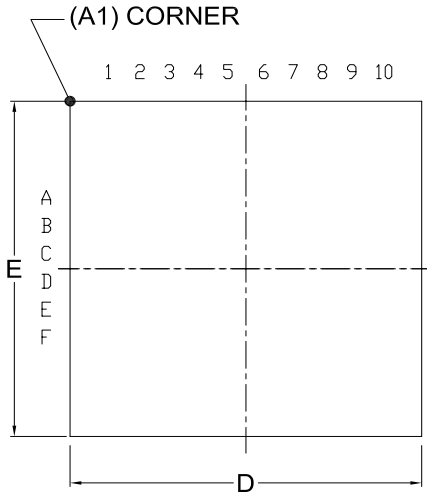
PART NAME DESCRIPTION



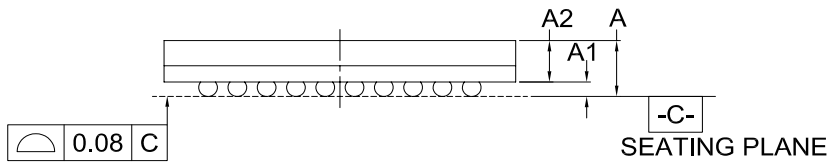
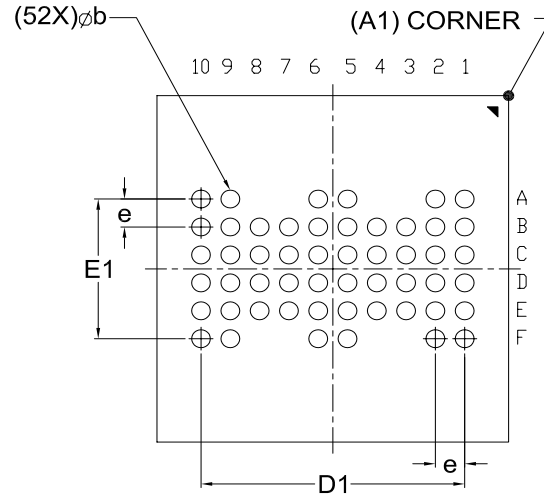
PACKAGE INFORMATION

Title: Package Outline for CSP 52BALL(6X6X1.2MM,BALL PITCH 0.5MM,BALL DIAMETER 0.3MM)

TOP VIEW



BOTTOM VIEW



Dimensions (inch dimensions are derived from the original mm dimensions)

SYMBOL		A	A1	A2	b	D	D1	E	E1	e
mm	Min.	—	0.16	0.65	0.25	5.9	—	5.9	—	—
	Nom.	—	0.21	—	0.30	6.0	4.5	6.0	2.5	0.50
	Max.	1.20	0.26	—	0.35	6.1	—	6.1	—	—
Inch	Min.	—	0.006	0.026	0.010	0.232	—	0.232	—	—
	Nom.	—	0.008	—	0.012	0.236	0.177	0.236	0.098	0.0197
	Max.	0.047	0.010	—	0.014	0.240	—	0.240	—	—

Dwg. No.	Revision	Reference		
		JEDEC	EIAJ	
6110-4271	1			



REVISION HISTORY

Revision No.	Description	Page	Date
0.01	1. Modified Package Information	P8	JUN/17/2014
1.0	1. Removed document status "ADVANCED INFORMATION" to align with the product status 2. Updated flash speed and pSRAM speed	All P2,3	MAR/23/2015



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MX69N-E
(6x6mm 52-TFBGA)

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