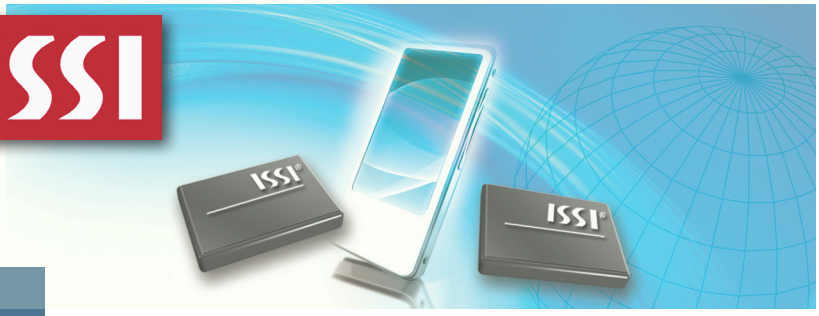


DRAM

PowerSaver™ Mobile SDRAMS

High Performance with Low Power

▶ ISSI Mobile SDRAM Product Features

- **Low Power:**
  Less power than standard SDRAMs with low standby current and self refresh options to maximize battery life and reduce heat
- **Wide Temperature Range:**
  Temperature range of -40°C to +85°C supports consumer, medical and industrial applications
- **Product Portfolio:**
  Full range of Mobile SDR products, JEDEC ball-compatible with standard SDR products
- **Long-Term Support:**
  ISSI fully committed to support legacy applications including x16/x32, 1.8V, 2.5V and 3.3V products

▶ Applications:

- Mobile Devices
  - GPS/Navigation Systems
  - Smart Phones
  - Digital Cameras
  - Gaming Units
- Portable Medical Devices
- Industrial Applications

ISSI Mobile SDRAM Ordering Options

Density	Org	Part Number
32M	2M x16	IS42XX16200D
	1M x32	IS42XX32100D
64M	4M x16	IS42XX16400M
	2M x32	IS42XX32200M
128M	8M x16	IS42XX16800H
	4M x32	IS42XX32400H
256M	16M x16	IS42XX16160K
	8M x32	IS42XX32800K
512M	32Mx16	IS42XX16320E
	16M x32	IS42XX32160E

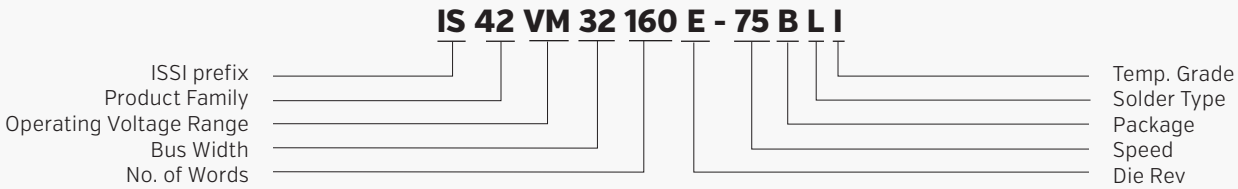
Notes:
XX: VM for Vdd = 1.8V, RM for Vdd = 2.5V, SM for Vdd = 3.3V. Production alternatives may be available.
Contact ISSI for automotive grade options.

ISSI Mobile SDRAM Features

	Features	Benefits
Densities	16Mb - 512Mb (SDR) 32Mb - 512Mb (DDR)*	Support legacy applications as well as new designs
Configurations	x8, x16, and x32	Support applications from legacy 8-bit to 32-bit wide data bus designs
VDD	1.8V / 2.5V / 3.3V	Full range of VDD supported: enables direct replacement of standard SDRAMs
Speed Grade / Clock Frequency	Up to 166MHz	High-speed data frequencies with Mobile DRAMs, but lower power than standard products
Special Mobile Features	Temperature Compensated Self Refresh (TCSR)	Adjust refresh rate based on required ambient temperature to minimize power consumption
	Partial Array Self Refresh (PASR)	Eliminates unnecessary row activations; full, 1/2, 1/4, 1/8 and 1/16 array options
	Deep Power Down (DPD)	Provides a low power state when data retention is not required to maximize battery life
	Programmable Drive Strength (DS)	Adjusts output drive strength to actual bus loading to minimize power consumption; full, 1/2, and 1/4 drive strength options
Temperature Ranges	-40°C to +85°C (Industrial)	High performance for wide range of end markets / applications
Packages	TSOPII	Cost effective solution; easy "lower power upgrade" for existing SDRAMs
	BGA	Smaller footprint for space-critical designs
	Known Good Die (KGD)	Support die-level applications including MCP solutions

* Featured in Mobile DDR product information materials.

ISSI Mobile SDRAM Part Number Decoder



- **Product Family**
  41 = Asynchronous
  42 = SDR Commercial/Industrial grade
  43 = DDR/DDR2/DDR3 Commercial/Industrial grade
  45 = SDR Automotive grade
  46 = DDR/DDR2/DDR3 Automotive grade

Synchronous
S = 3.3V SDR
SM/RM/VM = 3.3V/2.5V/1.8V mobile SDR
VS = 1.8V SDR
R = 2.5V DDR or 2.5V SDR
LR =1.8V mobile DDR (LPDDR)
DR = DDR2
LD = LPDDR2
TR = DDR3

- **Bus Width**
  8 = x8
  16 = x16
  32 = x32
- **No. of Words**
  100 = 1M
  200 = 2M
  400 = 4M
  800 = 8M
  160 = 16M
  320 = 32M
  640 = 64M
  128 = 128M
  256 = 256M
  512 = 512M
- **Die Rev.**
  A - Z

- **Speed**
  -7 = up to 143Mhz
  -6 = up to 166Mhz
  -75 = up to 133Mhz
- **Temp. Grade**
  Blank = Commercial Grade (0C to +70°C)
  I = Industrial Grade (-40C to +85°C)
  A1 = Automotive Grade (-40C to +85°C)
  A2 = Automotive Grade (-40C to +105°C)
  A25 = Automotive Grade (-40C to +115°C)
  Notes :
  1. Ambient temperature limits shown for most products.
  2. For DDR2 and DDR3, refer to the case temperature specifications.

- **Solder Type**
  (Blank) = Sn/Pb
  L = 100% matte Sn for non-BGA
  L = SnAgCu for BGA
- **Package**
  B= BGA
  T = TSOP