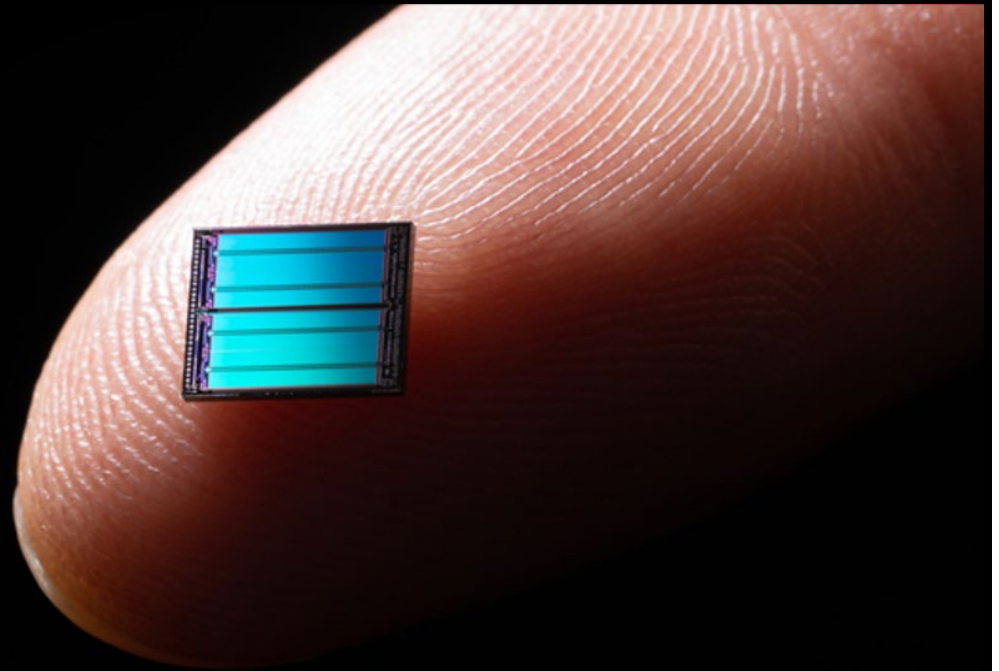




SMARTsemi™



Memory Components & Cards Catalog

March 2024

REV 03212024

Visit www.smartsemi.com for complete device information, inventory, and links to buy.

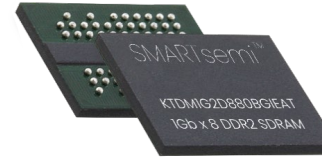
OPERATING RANGES & TESTING

PRODUCT FAMILY	PRODUCT LINE*	OPERATING TEMPERATURE RANGE						TESTING	
		COMMERICAL		INDUSTRIAL		WIDE (AUTOMOTIVE)		AUTOMOTIVE (AEC Q-100 CLASS 2)	
DRAM Components	DDR2 SDRAM	●	0°C to +95°C	●	-40°C to +95°C	●	-40°C to +105°C		
	DDR3(L) SDRAM	●	0°C to +85°C	●	-40°C to +85°C	●	-40°C to +105°C	●	-40°C to +105°C
	DDR4 SDRAM	●	0°C to +85°C	●	-40°C to +85°C				
FLASH Storage	eMMC 5.0					●	-40°C to +105°C		
	eMMC 5.1	●	-25°C to +85°C	●	-40°C to +85°C				
FLASH Cards	SD Cards			●	-40°C to +85°C				
	microSD Cards			●	-40°C to +85°C				

* Check Product Line page online or in this catalog for specific devices in each family that comply with temperature ranges and testing.

DDR2 SDRAM

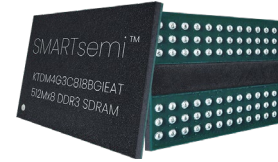
Wide (Auto), Industrial, & Commercial Temperature Range



SMARTSEMI PART NUMBER	TEMP RANGE	TESTING	DENSITY	ORGANIZATION	CLOCK	DATA RATE	VOLTAGE	PACKAGE	PACKING	MOQ	INCREMENT	DATA SHEET	REL. REPORT
Filter	Filter	Filter	Filter	Filter	Filter	Filter	Filter	Filter	Filter	Filter	Filter	Filter	Filter
KTDM1G2D680BGCEAT	0°C to +95°C	Commercial	1Gb	64Mbx16	400MHz	800Mbps	1.8V	84-ball FBGA	Tray	210	210	Link	Link
KTDM1G2D680BGIEAT	-40°C to +95°C	Industrial	1Gb	64Mbx16	400MHz	800Mbps	1.8V	84-ball FBGA	Tray	210	210	Link	Link
KTDM1G2D680BGAEAT	-40°C to +105°C	Wide (Auto)	1Gb	64Mbx16	400MHz	800Mbps	1.8V	84-ball FBGA	Tray	210	210	Link	Link
KTDM1G2D880BGCEAT	0°C to +95°C	Commercial	1Gb	1Gbx8	400MHz	800Mbps	1.8V	60-ball FBGA	Tray	209	209	Link	Link
KTDM1G2D880BGIEAT	-40°C to +95°C	Industrial	1Gb	1Gbx8	400MHz	800Mbps	1.8V	60-ball FBGA	Tray	209	209	Link	Link
KTDM1G2D880BGAEAT	-40°C to +105°C	Wide (Auto)	1Gb	1Gbx8	400MHz	800Mbps	1.8V	60-ball FBGA	Tray	209	209	Link	Link
KTDM522D680BGCEAT	0°C to +95°C	Commercial	512Mb	32Mbx16	400MHz	800Mbps	1.8V	84-ball FBGA	Tray	210	210	Link	Link
KTDM522D680BGIEAT	-40°C to +95°C	Industrial	512Mb	32Mbx16	400MHz	800Mbps	1.8V	84-ball FBGA	Tray	210	210	Link	Link
KTDM522D680BGAEAT	-40°C to +105°C	Wide (Auto)	512Mb	32Mbx16	400MHz	800Mbps	1.8V	84-ball FBGA	Tray	210	210	Link	Link

DDR3(L) SDRAM

Wide (Auto), Industrial, & Commercial Temperature Range
AEC-Q100 Class 2 Automotive Tested



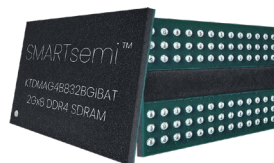
Product Catalog

March 2024

SMARTSEMI PART NUMBER	TEMP RANGE	TESTING	DENSITY	ORGANIZATION	CLOCK	DATA RATE	VOLTAGE	PACKAGE	PACKING	MOQ	INCREMENT	DATA SHEET	REL. REPORT
Filter	Filter	Filter	Filter	Filter	Filter	Filter	Filter	Filter	Filter	Filter	Filter	Filter	Filter
KTDM2G3C618BGCEAT	0°C to +85°C	Commercial	2Gb	128Mbx16	933MHz	1866Mbps	1.35V/1.5V	96-ball FBGA	Tray	198	198	Link	Link
KTDM2G3C618BGIEAT	-40°C to +85°C	Industrial	2Gb	128Mbx16	933MHz	1866Mbps	1.35V/1.5V	96-ball FBGA	Tray	198	198	Link	Link
KTDM2G3C618BGAEAT	-40°C to +105°C	Automotive AEC-Q100 Class 2	2Gb	128Mbx16	933MHz	1866Mbps	1.35V/1.5V	96-ball FBGA	Tray	198	198	Link	Link
KTDM2G3C818BGCEAT	0°C to +85°C	Commercial	2Gb	256Mbx8	933MHz	1866Mbps	1.35V/1.5V	78-ball FBGA	Tray	210	210	Link	Link
KTDM2G3C818BGIEAT	-40°C to +85°C	Industrial	2Gb	256Mbx8	933MHz	1866Mbps	1.35V/1.5V	78-ball FBGA	Tray	210	210	Link	Link
KTDM2G3C818BGAEAT	-40°C to +105°C	Automotive AEC-Q100 Class 2	2Gb	256Mbx8	933MHz	1866Mbps	1.35V/1.5V	78-ball FBGA	Tray	210	210	Link	Link
KTDM4G3C618BGCEAT	0°C to +85°C	Commercial	4Gb	256Mbx16	933MHz	1866Mbps	1.35V/1.5V	96-ball FBGA	Tray	198	198	Link	Link
KTDM4G3C618BGIEAT	-40°C to +85°C	Industrial	4Gb	256Mbx16	933MHz	1866Mbps	1.35V/1.5V	96-ball FBGA	Tray	198	198	Link	Link
KTDM4G3C818BGCEAT	0°C to +85°C	Commercial	4Gb	512Mbx8	933MHz	1866Mbps	1.35V/1.5V	78-ball FBGA	Tray	210	210	Link	Link
KTDM4G3C818BGIEAT	-40°C to +85°C	Industrial	4Gb	512Mbx8	933MHz	1866Mbps	1.35V/1.5V	78-ball FBGA	Tray	210	210	Link	Link

DDR4 SDRAM

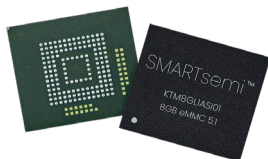
Industrial & Commercial Temperature Range



SMARTSEMI PART NUMBER	TEMP RANGE	TESTING	DENSITY	ORGANIZATION	CLOCK	DATA RATE	VOLTAGE	PACKAGE	PACKING	MOQ	INCREMENT	DATA SHEET	REL. REPORT
Filter	Filter	Filter	Filter	Filter	Filter	Filter	Filter	Filter	Filter	Filter	Filter	Filter	Filter
KTDM4G4B626BGCEAT	0°C to +85°C	Commercial	4Gb	256Mbx16	1333MHz	2666Mbps	1.2V	96-ball FBGA	Tray	198	198	Link	Link
KTDM4G4B626BGIEAT	-40°C to +85°C	Industrial	4Gb	256Mbx16	1333MHz	2666Mbps	1.2V	96-ball FBGA	Tray	198	198	Link	Link
KTDM4G4B826BGCEAT	0°C to +85°C	Commercial	4Gb	512Mbx8	1333MHz	2666Mbps	1.2V	78-ball FBGA	Tray	210	210	Link	Link
KTDM4G4B826BGIEAT	-40°C to +85°C	Industrial	4Gb	512Mbx8	1333MHz	2666Mbps	1.2V	78-ball FBGA	Tray	210	210	Link	Link
KTDM8G4B632BGCBCT	0°C to +85°C	Commercial	8Gb	512Mbx16	1600Mhz	3200Mbps	1.2V	96-ball FBGA	Tray	198	198	Link	Link
KTDM8G4B632BGIBCT	-40°C to +85°C	Industrial	8Gb	512Mbx16	1600MHz	3200Mbps	1.2V	96-ball FBGA	Tray	198	198	Link	Link
KTDM8G4B832BGCBCT	0°C to +85°C	Commercial	8Gb	1Gbx8	1333MHz	3200Mbps	1.2V	78-ball FBGA	Tray	210	210	Link	Link
KTDM8G4B832BGIBCT	-40°C to +85°C	Industrial	8Gb	1Gbx8	1333MHz	3200Mbps	1.2V	78-ball FBGA	Tray	210	210	Link	Link
KTDMAG4B632BGCBAT	0°C to +85°C	Commercial	16Gb	1Gbx16	1600MHz	3200Mbps	1.2V	96-ball FBGA	Tray	198	198	Link	Link
KTDMAG4B632BGIBAT	-40°C to +85°C	Industrial	16Gb	1Gbx16	1600MHz	3200Mbps	1.2V	96-ball FBGA	Tray	198	198	Link	Link
KTDMAG4B832BGCBAT	0°C to +85°C	Commercial	16Gb	2Gbx8	1600MHz	3200Mbps	1.2V	78-ball FBGA	Tray	210	210	Link	Link
KTDMAG4B832BGIBAT	-40°C to +85°C	Industrial	16Gb	2Gbx8	1600MHz	3200Mbps	1.2V	78-ball FBGA	Tray	210	210	Link	Link

FLASH EMMC 5.0

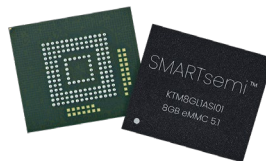
Wide (Auto) Temperature Range



SMARTSEMI PART NUMBER	TEMP RANGE	TESTING	CAPACITY	PROG. BUS WIDTH	FLASH TYPE	SEQ. READ	SEQ. WRITE	RNDM. READ	RNDM. WRITE	VOLTAGE (NAND/IO)	PACKAGE	PACKING	MOQ	INCR.	DATA SHEET	REL. REPORT
Filter	Filter	Filter	Filter	Filter	Filter	Filter	Filter	Filter	Filter	Filter	Filter	Filter	Filter	Filter	Filter	Filter
KTMBGP1CWW01	-40°C to +105°C	Wide (Auto)	8GB	x1	MLC NAND	260MB/s	85MB/s	5800 IOPS	2100 IOPS	3.3V/1.8V	153-FBGA	Tray	152	152	Link	Link
KTMBGP1CWW01	-40°C to +105°C	Wide (Auto)	16GB	x2	MLC NAND	260MB/s	130MB/s	6000 IOPS	2200 IOPS	3.3V/1.8V	153-FBGA	Tray	152	152	Link	Link
KTMBGP1CWW01	-40°C to +105°C	Wide (Auto)	32GB	x4	MLC NAND	260MB/s	130MB/s	6000 IOPS	2200 IOPS	3.3V/1.8V	153-FBGA	Tray	152	152	Link	Link

FLASH EMMC 5.1

Industrial & Commercial Temperature Range



SMARTSEMI PART NUMBER	TEMP RANGE	TESTING	CAPACITY	PROG. BUS WIDTH	FLASH TYPE	SEQ. READ	SEQ. WRITE	RNDM. READ	RNDM. WRITE	VOLTAGE (NAND/IO)	PACKAGE	PACKING	MOQ	INCR.	DATA SHEET	REL. REPORT
Filter	Filter	Filter	Filter	Filter	Filter	Filter	Filter	Filter	Filter	Filter	Filter	Filter	Filter	Filter	Filter	Filter
KTM4GH1AH101	-40°C to +85°C	Industrial	4GB	x1/x4/x8	MLC NAND	170MB/s	15MB/s	5345 IOPS	980 IOPS	3.3V/1.8V	153-FBGA	Tray	152	152	Link	Link
KTM8GH2AH101	-40°C to +85°C	Industrial	8GB	x1/x4/x8	MLC NAND	250MB/s	65MB/s	10000 IOPS	2000 IOPS	3.3V/1.8V	153-FBGA	Tray	152	152	Link	Link
KTMAGY1ASE01	-25°C to +85°C	Commercial	16GB	x1/x4/x8	TLC NAND	320MB/s	145MB/s	3700 IOPS	6500 IOPS	3.3V/1.8V	153-FBGA	Tray	152	152	Link	Link
KTMAGY1ASI01	-40°C to +85°C	Industrial	16GB	x1/x4/x8	TLC NAND	320MB/s	145MB/s	3700 IOPS	6500 IOPS	3.3V/1.8V	153-FBGA	Tray	152	152	Link	Link
KTMBGY1ASE01	-25°C to +85°C	Commercial	32GB	x1/x4/x8	TLC NAND	320MB/s	145MB/s	3700 IOPS	6500 IOPS	3.3V/1.8V	153-FBGA	Tray	152	152	Link	Link
KTMBGY1ASI01	-40°C to +85°C	Industrial	32GB	x1/x4/x8	TLC NAND	320MB/s	145MB/s	3700 IOPS	6500 IOPS	3.3V/1.8V	153-FBGA	Tray	152	152	Link	Link
KTMCGY1ASE01	-25°C to +85°C	Commercial	64GB	x1/x4/x8	TLC NAND	320MB/s	145MB/s	3700 IOPS	6500 IOPS	3.3V/1.8V	153-FBGA	Tray	152	152	Link	Link
KTMCGY1ASI01	-40°C to +85°C	Industrial	64GB	x1/x4/x8	TLC NAND	320MB/s	145MB/s	3700 IOPS	6500 IOPS	3.3V/1.8V	153-FBGA	Tray	152	152	Link	Link
KTMDGY1ASE01	-25°C to +85°C	Commercial	128GB	x1/x4/x8	TLC NAND	320MB/s	170MB/s	3700 IOPS	6500 IOPS	3.3V/1.8V	153-FBGA	Tray	152	152	Link	Link
KTMDGY1ASI01	-40°C to +85°C	Industrial	128GB	x1/x4/x8	TLC NAND	320MB/s	170MB/s	3700 IOPS	6500 IOPS	3.3V/1.8V	153-FBGA	Tray	152	152	Link	Link

Retired Components. Contact SMARTsemi for EOL Support

KTM8GL1ASI01	-40°C to +85°C	Industrial	8GB	x1/x4/x8	MLC NAND	240MB/s	110MB/s	3100 IOPS	4100 IOPS	3.3V/1.8V	153-FBGA	Tray	152	152	Link	
KTM8GY1ASI01	-40°C to +85°C	Industrial	8GB	x1/x4/x8	TLC NAND	320MB/s	145MB/s	3700 IOPS	6500 IOPS	3.3V/1.8V	153-FBGA	Tray	152	152	Link	
KTMAGL1ASI01	-40°C to +85°C	Industrial	16GB	x1/x4/x8	MLC NAND	240MB/s	110MB/s	3100 IOPS	4100 IOPS	3.3V/1.8V	153-FBGA	Tray	152	152	Link	

FLASH SD™ Card 3.01/SDR104

Industrial Temperature Range



SMARTSEMI PART NUMBER	TEMP RANGE	TYPE	CAPACITY	FLASH TYPE	UHS CLASS	SPEED CLASS	VIDEO CLASS	ENDURANCE	SEQ. READ	SEQ. WRITE	PACKAGE	PACKING	MOQ	INCR.	DATA SHEET	REL. REPORT
Filter	Filter	Filter	Filter	Filter	Filter	Filter	Filter	Filter	Filter	Filter	Filter	Filter	Filter	Filter	Filter	Filter
KTSDDGP2AKIT1	-40°C to +85°C	SDXC	128GB	TLC NAND	U3	C10	V60	366 TBW	100MB/s	85MB/s	32x24x2.1mm	Tray	400	400	Link	Link
KTSDCGP2AKIT1	-40°C to +85°C	SDXC	64GB	TLC NAND	U3	C10	V30	183 TBW	100MB/s	50MB/s	32x24x2.1mm	Tray	400	400	Link	Link
KTSDBGP1AMIT1	-40°C to +85°C	SDHC	32GB	TLC NAND	U1	C10	V10	91 TBW	100MB/s	15MB/s	32x24x2.1mm	Tray	400	400	Link	Link
KTSDAGP2AKIU1	-40°C to +85°C	SDHC	16GB	pSLC NAND	U3	C10	V60	460 TBW	100MB/s	85MB/s	32x24x2.1mm	Tray	400	400	Link	Link
KTSD8GP3ASIM1	-40°C to +85°C	SDHC	8GB	MLC NAND	U3	C10	V30	23 TBW	95MB/s	35MB/s	32x24x2.1mm	Tray	400	400	Link	Link

Performance Classification

Minimum Sequential Write Speed	Suggested Maximum Bit Rate	Speed Class			Video Format			
		Speed Class	UHS Class	Video Class	SD	HD/FHD	4K	8K
2 MB/s	15 Mbit/s	Class 2						
4 MB/s	30 Mbit/s	Class 4						
6 MB/s	45 Mbit/s	Class 6						
10 MB/s	75 Mbit/s	Class 10		Class 1				
30 MB/s	220 Mbit/s	Class 10		Class 3				
60 MB/s	460 Mbit/s	Class 10		Class 3				
90 MB/s	700 Mbit/s	Class 10		Class 3				
				Class 6	V6			
				Class 10	V10			
				Class 30	V30			
				Class 60	V60			
				Class 90	V90			

Physical Attributes

Capacity			
SD	SDHC	SDXC	SDUC
Up to 2GB	>2GB to 32GB	>32GB to 2TB	>2TB to 128TB

Form Factor	
SD	microSD
32x24x2.1mm	11x15x1x1mm

FLASH microSD™ Cards 6.1

Industrial Temperature Range



SMARTSEMI PART NUMBER	TEMP RANGE	TYPE	CAPACITY	FLASH TYPE	UHS CLASS	SPEED CLASS	VIDEO CLASS	APPLICATION PERFORMANCE	SEQ. READ	SEQ. WRITE	PACKAGE	PACKING	MOQ	INCR.	DATA SHEET	REL. REPORT
Filter	Filter	Filter	Filter	Filter	Filter	Filter	Filter	Filter	Filter	Filter	Filter	Filter	Filter	Filter	Filter	Filter
KTUDEGA1AWIT1	-40°C to +85°C	microSDXC	256GB	TLC NAND	U3	C10	V60	A2	97MB/s	83MB/s	11x15x1mm	Tray	120	120	Link	Link
KTUDCGP2AKIT1	-40°C to +85°C	microSDXC	64GB	TLC NAND	U3	C10	V60		95MB/s	50MB/s	11x15x1mm	Tray	120	120	Link	Link

Performance Classification

Minimum Sequential Write Speed	Suggested Maximum Bit Rate	Speed Class			Video Format			
		Speed Class	UHS Class	Video Class	SD	HD/FHD	4K	8K
2 MB/s	15 Mbit/s	Class 2 ©						
4 MB/s	30 Mbit/s	Class 4 ©						
6 MB/s	45 Mbit/s	Class 6 ©						
10 MB/s	75 Mbit/s	Class 10 ©	Class 1 U	Class 6 V6				
30 MB/s	220 Mbit/s	Class 10 ©	Class 3 U	Class 10 V10				
60 MB/s	460 Mbit/s	Class 10 ©	Class 3 U	Class 30 V30				
90 MB/s	700 Mbit/s	Class 10 ©	Class 3 U	Class 60 V60				
				Class 90 V90				

Physical Attributes

Capacity			
SD	SDHC	SDXC	SDUC
Up to 2GB	>2GB to 32GB	>32GB to 2TB	>2TB to 128TB

Form Factor	
SD	microSD
32x24x2.1mm	11x15x1mm