

CATALYST Flash Memory and NVRAM



RoHS Compliant **This product is RoHS compliant.**

The CAT28F001 is a high speed 128K X 8 bit electrically erasable and reprogrammable Flash memory ideally suited for applications requiring in-system or after sale code updates.

The CAT28F001 has a blocked architecture with one 8 KB Boot Block, two 4 KB Parameter Blocks and one 112 KB Main Block. The Boot Block section can be at the top or bottom of the memory map and includes a reprogramming write lock out feature to guarantee data integrity. It is designed to contain secure code which will bring up the system minimally and download code to other locations of CAT28F001.

The CAT28F001 is designed with a signature mode which allows the user to identify the IC manufacturer and device type. The CAT28F001 is also designed with on-Chip Address Latches, Data Latches, Programming and Erase Algorithms.

The CAT28F001 is manufactured using Catalyst's advanced CMOS floating gate technology. It is designed to endure 100,000 program/erase cycles and has a data retention of 10 years. The device is available in JEDEC approved 32-pin plastic DIP, PLCC or TSOP packages.

FEATURES: CAT28F001 SERIES

Boot Block Flash Memory

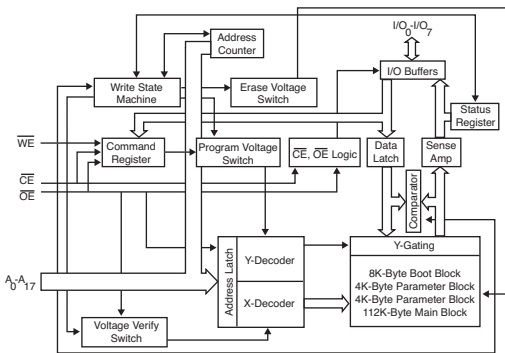
- Fast Read Access Time: 70/90/120/150 ns
- On-Chip Address and Data Latches
- Blocked Architecture:
 - One 8 KB Boot Block w/ Lock Out Top or Bottom Locations
 - Two 4 KB Parameter Blocks
 - One 112 KB Main Block

- Hardware Data Protection
- Electronic Signature
- 100,000 Program/Erase Cycles and 10 Year Data Retention
- JEDEC Standard Pinouts:
 - 32 pin DIP
 - 32 pin PLCC
 - 32 pin TSOP
- Reset/Deep Power Down Mode

- Low Power CMOS Operation
- 12.0V ± 5% Programming and Erase Voltage
- Automated Program & Erase Algorithms
- High Speed Programming
- Commercial, Industrial and Automotive
- Temperature Ranges
- Deep Powerdown Mode:
 - 0.05 mA ICC Typical
 - 0.8 mA IPP Typical



RoHS Compliant



◆ Surface Mount Device

For quantities of 500 and up, call for quote.

MOUSER STOCK NO.		Package	Density	Organization	Temp. Range (°C)	Price Each			
Mfr.	Mfr. Part No.					1	25	100	250
90 ns Boot Block - 5/12 Volt									
◆	698—CAT28F001L-90B	PDIP-32	1M	128 x 8	0 to 70	8.84	7.06	6.63	6.19
◆	698—CAT28F001LI-90B	PDIP-32	1M	128 x 8	-40 to +85	8.84	7.07	6.63	6.18
◆	698—CAT28F001L-90T	PDIP-32	1M	128 x 8	0 to 70	8.84	7.06	6.63	6.19
◆	698—CAT28F001LI-90T	PDIP-32	1M	128 x 8	-40 to +85	8.84	7.07	6.63	6.18
◆	698—CAT28F001G-90B	PLCC-32	1M	128 x 8	0 to 70	8.09	6.47	6.07	5.66
◆	698—CAT28F001GI-90B	PLCC-32	1M	128 x 8	-40 to +85	8.09	6.48	6.07	5.66
◆	698—CAT28F001G-90T	PLCC-32	1M	128 x 8	0 to 70	7.04	5.63	5.28	4.93
◆	698—CAT28F001GI-90T	PLCC-32	1M	128 x 8	-40 to +85	7.04	5.63	5.28	4.92
◆	698—CAT28F001H-90T	TSOP-32	1M	128 x 8	0 to 70	8.04	6.42	6.03	5.63
◆	698—CAT28F001HI-90T	TSOP-32	1M	128 x 8	-40 to +85	8.04	6.43	6.03	5.62
120 ns Boot Block - 5/12 Volt									
◆	698—CAT28F001L-12B	PDIP-32	1M	128 x 8	0 to 70	8.84	7.07	6.63	6.18
◆	698—CAT28F001LI-12B	PDIP-32	1M	128 x 8	-40 to +85	8.84	7.06	6.63	6.19
◆	698—CAT28F001L-12T	PDIP-32	1M	128 x 8	0 to 70	8.84	7.07	6.63	6.18
◆	698—CAT28F001LI-12T	PDIP-32	1M	128 x 8	-40 to +85	8.84	7.06	6.63	6.19
◆	698—CAT28F001G-12B	PLCC-32	1M	128 x 8	0 to 70	8.09	6.47	6.07	5.66
◆	698—CAT28F001GI-12B	PLCC-32	1M	128 x 8	-40 to +85	8.09	6.47	6.07	5.66
◆	698—CAT28F001G-12T	PLCC-32	1M	128 x 8	0 to 70	7.04	5.63	5.28	4.93
◆	698—CAT28F001GI-12T	PLCC-32	1M	128 x 8	-40 to +85	7.04	5.63	5.28	4.92
◆	698—CAT28F001H-12T	TSOP-32	1M	128 x 8	0 to 70	8.04	6.43	6.03	5.62
◆	698—CAT28F001HI-12T	TSOP-32	1M	128 x 8	-40 to +85	8.04	6.42	6.03	5.63

CAT28Fxxx Series electrically erasable and reprogrammable Flash memory is ideally suited for applications requiring in-system or after-sale code updates. Electrical erasure of the full memory contents is achieved typically within 0.5 second.

It is pin and Read timing compatible with standard EPROM and E2PROM devices. Programming and Erase are performed through an operation and verify algorithm. The instructions are input via the I/O bus, using a two write cycle scheme. Address and Data are latched to free the I/O bus and address bus during the write operation.

FEATURES: CAT28Fxxx SERIES

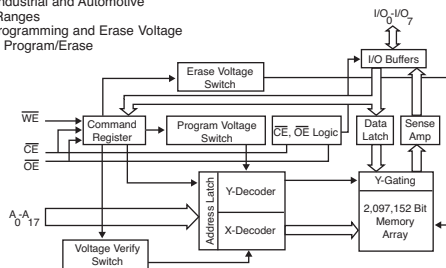
Bulk Erase Flash Memory

- Fast Read Access Time: 90/120/150 ns
- Low Power CMOS Dissipation:
 - Active: 30 mA max (CMOS/TTL levels)
 - Standby: 1 mA max (TTL levels)
 - Standby: 100 mA max (CMOS levels)
- High Speed Programming:
 - 10 ms per byte
 - 1 Sec Typ Chip Program*

- On-Chip Address and Data Latches
- Electronic Signature



- Commercial, Industrial and Automotive
- Temperature Ranges
- 12.0V ± 5% Programming and Erase Voltage
- Stop Timer for Program/Erase



◆ Surface Mount Device

For quantities of 500 and up, call for quote.

MOUSER STOCK NO.		Package	Density	Organization	Temperature Range (°C)	Price Each			
Mfr.	Mfr. Part No.					1	25	100	250
90 ns Bulk Erase - 5/12 Volt									
◆	698—CAT28F512L-90	PDIP-32	512K	64K x 8	0 to 70	9.44	7.55	7.08	6.60
◆	698—CAT28F512LI-90	PDIP-32	512K	64K x 8	-40 to +85	9.44	7.55	7.08	6.60
◆	698—CAT28F512G-90	PLCC-32	512K	64K x 8	0 to 70	8.78	7.02	6.59	6.15
◆	698—CAT28F512GI-90	PLCC-32	512K	64K x 8	-40 to +85	8.78	7.02	6.59	6.15
◆	698—CAT28F512H-90	TSOP-32	512K	64K x 8	0 to 70	9.93	7.94	7.45	6.95
◆	698—CAT28F010L-90	PDIP-32	1M	128K x 8	0 to 70	9.00	7.20	6.75	6.30
◆	698—CAT28F010LI-90	PDIP-32	1M	128K x 8	-40 to +85	9.00	7.20	6.75	6.30
◆	698—CAT28F010G-90	PLCC-32	1M	128K x 8	0 to 70	8.28	6.62	6.21	5.79
◆	698—CAT28F010GI-90	PLCC-32	1M	128K x 8	-40 to +85	8.28	6.62	6.21	5.79
◆	698—CAT28F010H-90	TSOP-32	1M	128K x 8	0 to 70	9.43	7.54	7.07	6.60
◆	698—CAT28F010HI-90	TSOP-32	1M	128K x 8	-40 to +85	9.43	7.54	7.07	6.60
◆	698—CAT28F010HRI-90	TSOP-32	1M	128K x 8	-40 to +85	9.43	7.54	7.07	6.60
◆	698—CAT28F020L-90	PDIP-32	2M	256K x 8	0 to 70	12.38	9.90	9.29	8.66
◆	698—CAT28F020LI-90	PDIP-32	2M	256K x 8	-40 to +85	12.38	9.90	9.29	8.66
◆	698—CAT28F020G-90	PLCC-32	2M	256K x 8	0 to 70	12.16	9.73	9.12	8.51
◆	698—CAT28F020GI-90	PLCC-32	2M	256K x 8	-40 to +85	12.16	9.73	9.12	8.51
◆	698—CAT28F020H-90	TSOP-32	2M	256K x 8	0 to 70	13.31	10.65	9.98	9.31
120 ns Bulk Erase - 5/12 Volt									
◆	698—CAT28F512L-12	PDIP-32	512K	64K x 8	0 to 70	7.44	5.95	5.58	5.20
◆	698—CAT28F512LI-12	PDIP-32	512K	64K x 8	-40 to +85	7.44	5.95	5.58	5.20
◆	698—CAT28F512G-12	PLCC-32	512K	64K x 8	0 to 70	6.48	5.18	4.87	4.54
◆	698—CAT28F512GI-12	PLCC-32	512K	64K x 8	-40 to +85	6.48	5.18	4.86	4.54
◆	698—CAT28F512H-12	TSOP-32	512K	64K x 8	0 to 70	7.63	6.10	5.73	5.34
◆	698—CAT28F010L-12	PDIP-32	1M	128K x 8	0 to 70	8.00	6.40	6.00	5.60
◆	698—CAT28F010LI-12	PDIP-32	1M	128K x 8	-40 to +85	8.00	6.40	6.00	5.60
◆	698—CAT28F010G-12	PLCC-32	1M	128K x 8	0 to 70	7.13	5.70	5.35	4.99
◆	698—CAT28F010GI-12	PLCC-32	1M	128K x 8	-40 to +85	7.13	5.70	5.34	4.99
◆	698—CAT28F010H-12	TSOP-32	1M	128K x 8	0 to 70	8.28	6.62	6.21	5.79
◆	698—CAT28F010HI-12	TSOP-32	1M	128K x 8	-40 to +85	8.28	6.62	6.21	5.79
◆	698—CAT28F010HRI-12	TSOP-32	1M	128K x 8	-40 to +85	8.28	6.62	6.21	5.79
◆	698—CAT28F020L-12	PDIP-32	2M	256K x 8	0 to 70	10.38	8.30	7.79	7.26
◆	698—CAT28F020LI-12	PDIP-32	2M	256K x 8	-40 to +85	10.38	8.29	7.79	7.27
◆	698—CAT28F020G-12	PLCC-32	2M	256K x 8	0 to 70	9.86	7.89	7.40	6.90
◆	698—CAT28F020GI-12	PLCC-32	2M	256K x 8	-40 to +85	9.86	7.88	7.40	6.91
◆	698—CAT28F020H-12	TSOP-32	2M	256K x 8	0 to 70	11.01	8.80	8.26	7.71
◆	698—CAT28F020HI-12	TSOP-32	2M	256K x 8	-40 to +85	11.01	8.81	8.26	7.70
◆	698—CAT28F020HR-12	TSOP-32	2M	256K x 8	0 to 70	11.01	8.80	8.26	7.71
◆	698—CAT28F020HRI-12	TSOP-32	2M	256K x 8	-40 to +85	11.01	8.81	8.26	7.70

CATALYST NVRAM

Features:

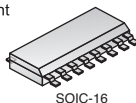
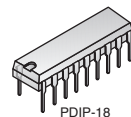
- Single 5V supply
- Infinite EEPROM to RAM recall
- CMOS and TTL Compatible I/O
- Power up/down protection
- 10 year data retention
- 100,000 Program/Erase cycles (EEPROM)
- Commercial, industrial, and automotive temperature ratings

- JEDEC Standard Pinouts: 18-pin DIP and 16-pin SOIC (CAT22C10)
- Low CMOS Power Consumption: Active - 40mA max., Standby: 30µA max.
- Fast RAM access times (CAT22C10): 200ns, 300ns

◆ Surface Mount Device

For quantities of 500 and up, call for quote.

MOUSER STOCK NO.		Case Type	Density	Organization	Access Time (ns)	Temperature Range (°C)	Operating Voltage (V)	Price Each			
Mfr.	Mfr. Part No.							1	25	100	250
◆	698—CAT22C10WI-20	SOIC-16	256	64 x 8	200	-40 to +85	4.5 to 5.5	4.18	3.35	3.13	2.92
◆	698—CAT22C10L-20	PDIP-18	256	64 x 8	200	0 to 70	4.5 to 5.5	3.52	2.82	2.64	2.46
◆	698—CAT22C10LI-20	PDIP-18	256	64 x 8	200	-40 to +85	4.5 to 5.5	3.76	3.01	2.82	2.63
◆	698—CAT22C10L-30	PDIP-18	256	64 x 8	300	-40 to +85	4.5 to 5.5	3.67	2.93	2.75	2.57
◆	698—CAT24C44LI	PDIP-8	1K	128 x 8	-	-40 to +85	4.5 to 5.5	2.31	1.85	1.73	1.61



RoHS Compliant

