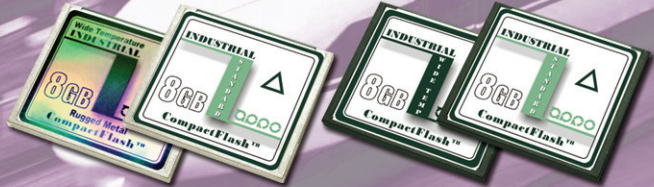


Product Specifications

www.apro-tw.com

TITANS Series Industrial (Rugged metal) CompactFlash (CF) card



Product features

- ❖ SLC - NAND type flash technology
- ❖ Compatible with CompactFlash® specification 3.0
- ❖ CompactFlash® Type I form-factor
- ❖ Optional for standard casing and rugged metal casing
- ❖ Compatible with ATA/ATAPI-5 standard
- ❖ Data transfer mode support PIO-4 and UDMA-4
- ❖ Performance up to 25.9MB/sec
- ❖ Capacity from 32MB up to 8GB

Product specifications

Compatibility ❖ ATAPI-5 and True IDE mode

Flash technology ❖ SLC-NAND type flash based

Form-factor ❖ CompactFlash type I

Host Interface ❖ Female 50 pins

Performance

Data transfer mode ❖ PIO-4 mode or UDMA-4 mode (def.)

Data transfer rate ❖ 66.6MB/sec (ATA-5 / UDMA-4)

❖ 16.6MB/sec (ATA-3 / PIO-4)

Sequential read ❖ 25.9 MB/sec (Max. /with dual flash)

Sequential write ❖ 11.9 MB/sec (Max. /with dual flash)

Average access time ❖ 0.7ms (estimated)

Environmental specification

Operating temp. ❖ STD. 0°C ~ 70°C / IND. -40°C ~ 85°C

Non-operating temp. ❖ STD. -20°C ~ 80°C / IND. -50°C ~ 95°C

Humidity ❖ 10% ~ 95% non-condensing

Vibration ❖ 15G compliance to MIL-STD-810F

Shock ❖ 1,500G compliance to MIL-STD-810F

Altitude ❖ 70,000 feet

Power consumption

Power requirement ❖ +5V ±10% / +3.3V ±5%

Reading mode ❖ 90.8mA(Max.)

Writing mode ❖ 93.3mA(Max.)

Sleeping mode ❖ 2.5mA(Max.)

Reliability

Wear-leveling ❖ Dynamic wear-leveling algorithms

MTBF ❖ > 1,000,000 hours

ECC ❖ 4-bits per 512bytes block

Endurance ❖ > 2,000,000 cycles

Physical specification

Weight (max.) ❖ Standard casing 12.0g/ 0.42 oz.

❖ Metal casing 15.0g/ 0.53 oz.

Dimension(W x L x H) ❖ 42.8 x 36.4 x 3.3 (mm)

Conformal coating ❖ Option for special request


Warranty

Standard grade ❖ 3 years


Industrial grade ❖ 5 years

Operating temperature supports standard grade 0°C ~ 70°C and industrial grade -40°C ~ 85°C

Part number list - Standard CompactFlash card casing

| Product picture | Capacity | 0° C- 70° C | -40° C- 85° C |
|--|--------------|-------------------|--------------------|
|  | 32MB | SPFC032M-SDCSC-UF | WPCFC032M-SDISI-UF |
| | 64MB | SPFC064M-SDCSC-UF | WPCFC064M-SDISI-UF |
| | 128MB | SPFC128M-SDCSC-UF | WPCFC128M-SDISI-UF |
| | 256MB | SPFC256M-SDCSC-UF | WPCFC256M-SDISI-UF |
| | 512MB | SPFC512M-SDCSC-UF | WPCFC512M-SDISI-UF |
| | 1GB | SPFC001G-SDCSC-UF | WPCFC001G-SDISI-UF |
| | 2GB | SPFC002G-SDCSC-UF | WPCFC002G-SDISI-UF |
| | 4GB | SPFC004G-SDCSC-UF | WPCFC004G-SDISI-UF |
| | 8GB | SPFC008G-SDCSC-UF | WPCFC008G-SDISI-UF |

Part number list - Rugged metal CompactFlash card casing

| Product picture | Capacity | 0° C- 70° C | -40° C- 85° C |
|---|--------------|--------------------|--------------------|
|  | 32MB | SRCFC032M-SDCSC-UF | WRCFC032M-SDISI-UF |
| | 64MB | SRCFC064M-SDCSC-UF | WRCFC064M-SDISI-UF |
| | 128MB | SRCFC128M-SDCSC-UF | WRCFC128M-SDISI-UF |
| | 256MB | SRCFC256M-SDCSC-UF | WRCFC256M-SDISI-UF |
| | 512MB | SRCFC512M-SDCSC-UF | WRCFC512M-SDISI-UF |
| | 1GB | SRCFC001G-SDCSC-UF | WRCFC001G-SDISI-UF |
| | 2GB | SRCFC002G-SDCSC-UF | WRCFC002G-SDISI-UF |
| | 4GB | SRCFC004G-SDCSC-UF | WRCFC004G-SDISI-UF |
| | 8GB | SRCFC008G-SDCSC-UF | WRCFC008G-SDISI-UF |

Remarks: The optional data-transfer modes and disk types are:

1. PF: optional as PIO-4 mode / Fixed disk type
2. PR: optional as PIO-4 mode / Removable disk type
3. PA: optional as PIO-4 mode / Fixed disk & removable disk type auto-detection
- 4. UF: defaulted as UDMA-4 mode / Fixed disk type**
5. UR: optional as UDMA-4 mode / Removable disk type
6. UA: optional as UDMA-4 mode / Fixed disk & removable disk type auto-detection

INDUSTRIAL
CompactFlash Card

INDUSTRIAL
PCMCIA ATA Card

INDUSTRIAL
micro IDE Flash Disk

INDUSTRIAL
micro SATA Flash Disk

INDUSTRIAL
Solid State Disk

INDUSTRIAL
USB Flash Disk

INDUSTRIAL
Card Reader

Product Specifications

INDUSTRIAL CompactFlash Card

INDUSTRIAL PCMCIA ATA Card

INDUSTRIAL micro IDE Flash Disk

INDUSTRIAL micro SATA Flash Disk

INDUSTRIAL Solid State Disk

INDUSTRIAL Rugged Metal USB Flash Disk

INDUSTRIAL Adapter Card Reader

Part number decoder

X1 X2 X3 X4 X5 X6 X7 X8 X9 — X11 X12 X13 X14 X15 — Z1 Z2 / C

Example

S P C F C 5 1 2 M — S D C S C — U F / C

X1 ▶ Grade

S : Standard grade operating temp. 0° C ~ 70 ° C

W : Industrial grade operating temp. -40° C ~ 85 ° C

X2 ▶ The material of case

P : Plastic frame kit

R : Rugged metal frame kit

X3 X4 X5 ▶ Product category

CFC : CompactFlash (CF) card

X6 X7 X8 X9 ▶ Capacity

032M : 32MB

064M : 64MB

128M : 128MB

256M : 256MB

512M : 512MB

001G : 1GB

002G : 2GB

004G : 4GB

008G : 8GB

Z1 Z2 ▶ Data transfer rate

PF: optional as PIO-4 mode / Fixed disk type

PR: optional as PIO-4 mode / Removable disk type

PA: optional as PIO-4 mode / Fixed disk & removable disk type auto-detection

UF: defaulted as UDMA-4 mode / Fixed disk type

UR: optional as UDMA-4 mode / Removable disk type

UA: optional as UDMA-4 mode / Fixed disk & removable disk type auto-detection

X11 ▶ Controller

S : 3S 88x3 A5 (Titans series)

X12 ▶ Controller version

A,B,C,.....

X13 ▶ Controller grade

C : Commercial grade

I : Industrial grade

X14 ▶ Flash IC

S : Samsung SLC-NAND flash IC

X15 ▶ Flash IC grade / Type

C : Commercial grade

I : Industrial grade

C ▶ Reserved for specific requirement

C : Conformal-coating