# LF Series

## microSDHC / microSDXC Memory Card, Consumer TLC Model

#### ■ Product Outline

LF series are microSDHC / microSDXC memory cards adopting built-in TLC NAND flash memory. They are formatted complying with SD card specification.

■ **Product Specification** (specifications and appearances may be changed without notice.)

		8GB	16GB	32GB	64GB
Appearance		Panasonic Micro 4 8GB Made in Taiwan	Panasonic Micro @ LIE I U  16GB Made in Taiwan	Panasonic Micro @ Salar I U  32GB Made in Taiwan	Panasonic Micro (0) XC I (1) 64GB Made in Taiwan
Part Number		RP-SMLF08DA1	RP-SMLF16DA1	RP-SMLF32DA1	RP-SMLF64DA1
Capacity	Available user data area capacity *1)	7,960,756,224 byte	15,514,697,728 byte	31,092,342,784 byte	$62,\!528,\!290,\!816$ byte
Compliant Specification	SD Physical Specification	Ver. 3.01			
	SD speed class	CLASS 4	CLASS® T [1]		
	UHS speed grade		IU		
	Speed mode	Default Speed Mode, High Speed Mode,	Default Speed Mode, High Speed Mode, SDR12/SDR25/SDR50/DDR50/SDR104		
Backside mark	Control Code				
Read/Write Performance (up to)	Read	$20 \mathrm{MB/s}$ (High Speed)	80MB/s (SDR104)		
	Write	$5\mathrm{MB/s}$ (High Speed)	10MB/s (SDR104)		
Absolute Maximum Ratings	Supply Voltage	Min: -0.3 V; Max: +4.6 V			
	Input Voltage	Min∶-0.3 V ; Max∶VDD +0.3 V			
	Output Voltage	Min: -0.3 V; Max: VDD +0.3 V			
	Output Current	Min∶-24 mA;Max∶+24 mA			
Environmental Specification	Operating Temperature	-25 degree C to +85 degree C			
	Storage Temperature	-40 degree C to +85 degree C			
	Humidity	5 % RH to 95 % RH			
	Vibration	15 Gp-р			
	Shock	1,000 G			
	Mating Cycles	$10,000  \mathrm{cycles}$			

<sup>\*1)</sup> Free user area capacity after formatted.

Absolute Maximum Ratings are the values of limitation, which do not damage the card. So those values do not define the operational range.

Products comply with EU RoHS directives.

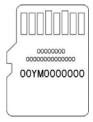
#### ■Marking Specification (example: 16GB)



"16GB"
"MADE IN TAIWAN"

 $\mathbf{M}$ 

Card Capacity Country of origin



"00YM000000" Serial Number Y Last digit of Manufacture year

Manufacture month (January->A, February->B,

"000000000", Internal control code "000000000000" Internal control code

### ■ System Reliability

- a. Error detect and corrective function
- b. Static wear leveling
- c. Bad block management

#### ■ Notice and Caution

If you think about the usage for which special quality or reliability of the products is needed and failure or malfunction of the products may directly threaten life or injury for the special usage (aeronautic or cosmic usage, military usage, combustion machine, life support applications or safety applications), please counsel with our contacts in advance.

Write frequency and storage temperature will affect data retention time. Please make a backup for important data.

#### ■ Warranty

If the product cannot be used because of failure which is determined as defect in design or in production of the product, it is replaced by same product or equivalent one within 12 months from the delivery date of product.