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SPECIFICATION FOR APPR

DATE

CUSTOMER

PART NAME Thick Flim Power Surge Chip Resistor

CUSTOMER'S DWG. NO.

CUSTOMER'S PART NO.

PDC PART NO. FPS SERIES APPROVED

DESCRIPTION.

ACTION / RESULT	" V "	CUSTOMER'S SIGNATURE	NOTE
FULL APPROVED			
CONDITIONAL APPROVE			
REJECTED			

OUR ACTION	SIGNATURE
PREPARED By	Jenny Tseng
CHECKED By	Tony Chou
APPROVED By	Byron Tsai

CUSTOMER SIGNATURE FOR ACCEPT

PDC

PSA
PASSIVE SYSTEM ALLIANCE

FPS series. (AEC-Q200)
High-Power & Anti-Surge
Thick-film Lead Free Chip Resistors

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PDC

FPS series. (AEC-Q200)
High-Power & Anti-Surge
Thick-film Lead Free Chip Resistors

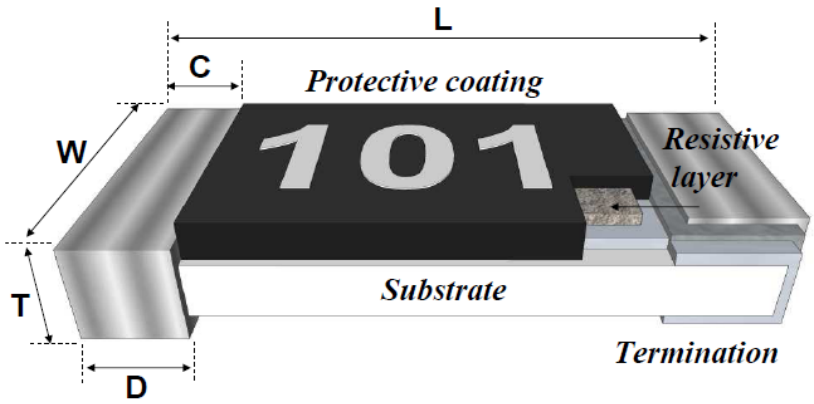
1. Features

- High power rating to 2W and compact size.
- High reliability and high precision (1%).
- Suitable for withstanding surge voltage.
- Suitable for lead free soldering.
- Meet AEC-Q200, RoHS compliant & Halogen Free.

2. Applications

- Power supply.
- Automotive industry.
- Digital meter, Consumer electronics, M/B.
- LED Lighting.
- Industry control board.

3.Dimension and Construction



Unit：mm

Type	L	W	C	D	T
FPS03	1.60±0.10	0.80±0.10	0.30±0.20	0.30±0.20	0.45±0.10
FPS05	2.00±0.10	1.25±0.10	0.40±0.20	0.40±0.20	0.50±0.10
FPS06	3.10±0.10	1.60±0.10	0.50±0.25	0.50±0.25	0.55±0.10
FPS12	3.10±0.10	2.60±0.10	0.50±0.25	0.50±0.25	0.55±0.10
FPS20	5.00±0.20	2.50±0.20	0.65±0.25	0.60±0.25	0.60±0.10
FPS25	6.40±0.20	3.10±0.20	0.60±0.25	1.80±0.25	0.60±0.15

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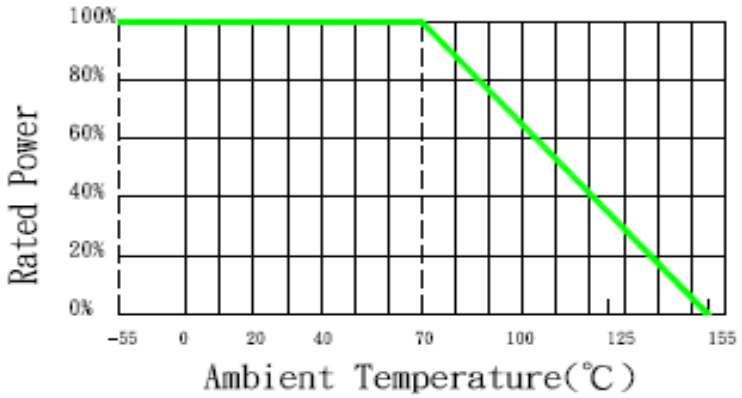
4.Power Derating Curve

Operating Temperature Range: -55 to +155 deg.C



5.Rating

Resistor:

Type	Size	Power Rating at 70℃	Max. RCWV	Max. Overload Voltage	Resistance Tolerance	Temperature Coefficient (ppm/℃)	Resistance Range		Standard Resistance Values
							Min.	Max.	
FPS03	0603	1/8W	50V	100V	±1%(F)	±100ppm	10Ω	1MΩ	E96/E24
					±1%(F)	±200ppm	1Ω	9.76Ω	E96/E24
					±5%(J)	±200ppm	1Ω	1MΩ	E24
FPS05	0805	1/4W	150V	300V	±1%(F)	±100ppm	10Ω	1MΩ	E96/E24
					±1%(F)	±150ppm	1Ω	9.76Ω	E96/E24
					±1%(F)	L Code ±200ppm	1Ω	10Ω	E96/E24
					±5%(J)	±200ppm	1Ω	1MΩ	E24
FPS06	1206	1/2W	200V	400V	±1%(F)	±100ppm	1Ω	1MΩ	E96/E24
					±1%(F)	L Code ±200ppm	1Ω	10Ω	E96/E24
					±5%(J)	±200ppm	1Ω	1MΩ	E24

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FPS series. (AEC-Q200)
High-Power & Anti-Surge
Thick-film Lead Free Chip Resistors

Type	Size	Power Rating at 70℃	Max. RCWV	Max. Overload Voltage	Resistance Tolerance	Temperature Coefficient (ppm/℃)	Resistance Range		Standard Resistance Values
							Min.	Max.	
FPS12	1210	1/2W	200V	400V	±1%(F)	±100ppm	1Ω	1MΩ	E96/E24
					±1%(F)	L Code ±200ppm	1Ω	10Ω	E96/E24
					±5%(J)	±200ppm	1Ω	1MΩ	E24
FPS20	2010	1W	200V	400V	±1%(F)	±100ppm	1Ω	1MΩ	E96/E24
					±1%(F)	L Code ±200ppm	1Ω	10Ω	E96/E24
					±5%(J)	±200ppm	1Ω	1MΩ	E24
FPS25	2512	2W	300V	600V	±1%(F)	±100ppm	1Ω	1MΩ	E96/E24
					±1%(F)	L Code ±200ppm	1Ω	10Ω	E96/E24
					±5%(J)	±200ppm	1Ω	1MΩ	E24

Note：RCWV＝$(P\times R)^{1/2}$ or Max. RCWV listed above, whichever is lower.

RCWV：Working Voltage (V)，P：Rated Power (W)，R：Resistance Value (Ω)

Please consider the resistance variance from soldering pad/trace/amount, and keep the surface temperature do not exceed 105℃ when full rated power applied.

Jumper:

Type	Size	Description	Max. Rated Current	Resistance
FPS03	0603	Zero Ohm，Jumper	≦ 2A	＜20mΩ
FPS05	0805	Zero Ohm，Jumper	≦ 4A	＜20mΩ
FPS06	1206	Zero Ohm，Jumper	≦ 4A	＜20mΩ
FPS12	1210	Zero Ohm，Jumper	≦ 4A	＜20mΩ
FPS20	2010	Zero Ohm，Jumper	≦ 6A	＜20mΩ
FPS25	2512	Zero Ohm，Jumper	≦ 6A	＜20mΩ

Note：

1. Max. rated current and resistance listed above, TCR is not applicable of jumper products.

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6.Part Number

Type	Size	Tolerance	Packing	Watt	R Value (GM)	TCR	Control Code
FPS	**03** :0603 **05** :0805 **06** :1206 **12** :1210 **20** :2010 **25** :2512	**F** :±1% **J** :±5%	**Paper Tape：** **0603.0805.** **1206.1210** **T** : 5Kpcs **V** : 10Kpcs **W** : 20Kpcs **Plastic Tape：** **2010.2512** **P** : 4Kpcs **X** : 8Kpcs **Y** : 16Kpcs	**-**: As Rating Info	**XXXX** **XXX** **5%:** 3 digits **1%:** 4 digits	**-**: As Rating Info L:±200 1~10Ω Option	**Null**: Standard **M** : Meet AEC-Q200

Example：

FPS25FP-1004-M

➔2512 size, tolerance 1%, plastic tape, 2W, 1 MΩ, Aec-Q200.

FPS06JT-104

➔1206 size, tolerance 5%, paper tape, 1/2W, 100 KΩ, standard.

7.Marking/Soldering

Resistance value identify：

E24 ±5%：3 Digits marking to identify the resistance value

0603/0805/1206/1210/2010/2512

$301 \rightarrow 30 \times 10^{1} = 300\Omega$

E24/E96 ±1%：4 Digits marking to identify the resistance value

0805/1206/1210/2010/2512

$1542 \rightarrow 154 \times 10^{2} = 15.4\ K\Omega$

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