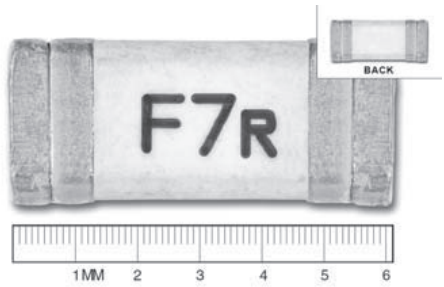
6125FF

Fast-acting subminiature fuses



Product description

- Fast-acting surface mount fuse
- Overcurrent protection of systems up to 125Vac/72Vdc
- High inrush withstand capability
- Solder immersion compatible

Applications

- Power supplies
- Servers
- LED/LCD televisions
- Appliances and white goods
- LCD monitor/backlight inverters
- Laptops and notebooks

Agency information

- cURus Recognition file number: E19180, Guide JDYX2/JDYX8

Ordering

Specify part number and packaging prefix as shown

Packaging prefix	Part number
TR2-	6125FF1-R

Packaging prefixes

- TR2- (Tape and reel, 5000 parts per 13" diameter reel)

Electrical characteristics

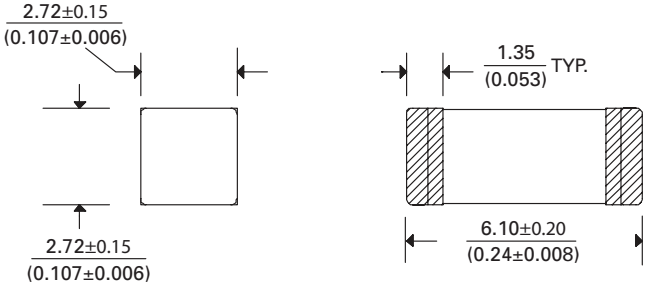
% of Amp Rating	Opening Time
100%	4 Hours Minimum
200%	5 Second Maximum

Product specifications

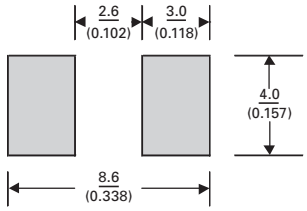
Part Number[3]	Current rating (amps)	Voltage rating		Interrupting rating[1] (amps)			DC cold resistance (mΩ) Typ.	Melting[2] I^2t (A^2 second)	Typical voltage drop (mV)
		Vac	Vdc	125Vac	72Vdc	32Vdc			
6125FF500-R	500mA	125	72	50	50	300	750	0.08	605
6125FF750-R	750mA	125	72	50	50	300	350	0.152	433
6125FF1-R	1	125	72	50	50	300	260	0.22	415
6125FF1.25-R	1.25	125	72	50	50	300	171	0.355	410
6125FF1.5-R	1.5	125	72	50	50	300	112	0.456	365
6125FF2-R	2	125	72	50	50	300	49	1.67	160
6125FF2.5-R	2.5	125	72	50	50	300	45	5.20	155
6125FF3-R	3	125	72	50	50	300	35	6.24	153
6125FF3.5-R	3.5	125	72	50	50	300	27	7.28	150
6125FF4-R	4	125	72	50	50	300	26	7.4	145
6125FF5-R	5	125	72	50	50	300	17	9.5	141
6125FF6.3-R	6.3	125	72	50	50	300	14	15.1	135
6125FF7-R	7	125	72	50	50	300	11	37.25	112
6125FF8-R	8	125	72	50	50	300	8.7	70	110
6125FF10-R	10	125	72	50	50	300	7.3	67.75	110
6125FF12-R	12	125	72	50	50	300	5.3	210.59	106
6125FF15-R	15	125	72	50	50	300	4.2	296.10	104

1 AC Interrupting Rating (Measured at designated voltage, 100% power factor); DC Interrupting Rating (Measured at designated voltage, time constant of less than 50 microseconds, battery source)
2 Typical Melting I^2t (Measured at 72Vdc, 10X rated current (not exceed 50A - IR @ 72Vdc)
3 Part number definition: 6125FFxxx-R
6125FF= Product code and size
xxx= Ampere
-R= RoHS compliant

Dimensions–mm (in)

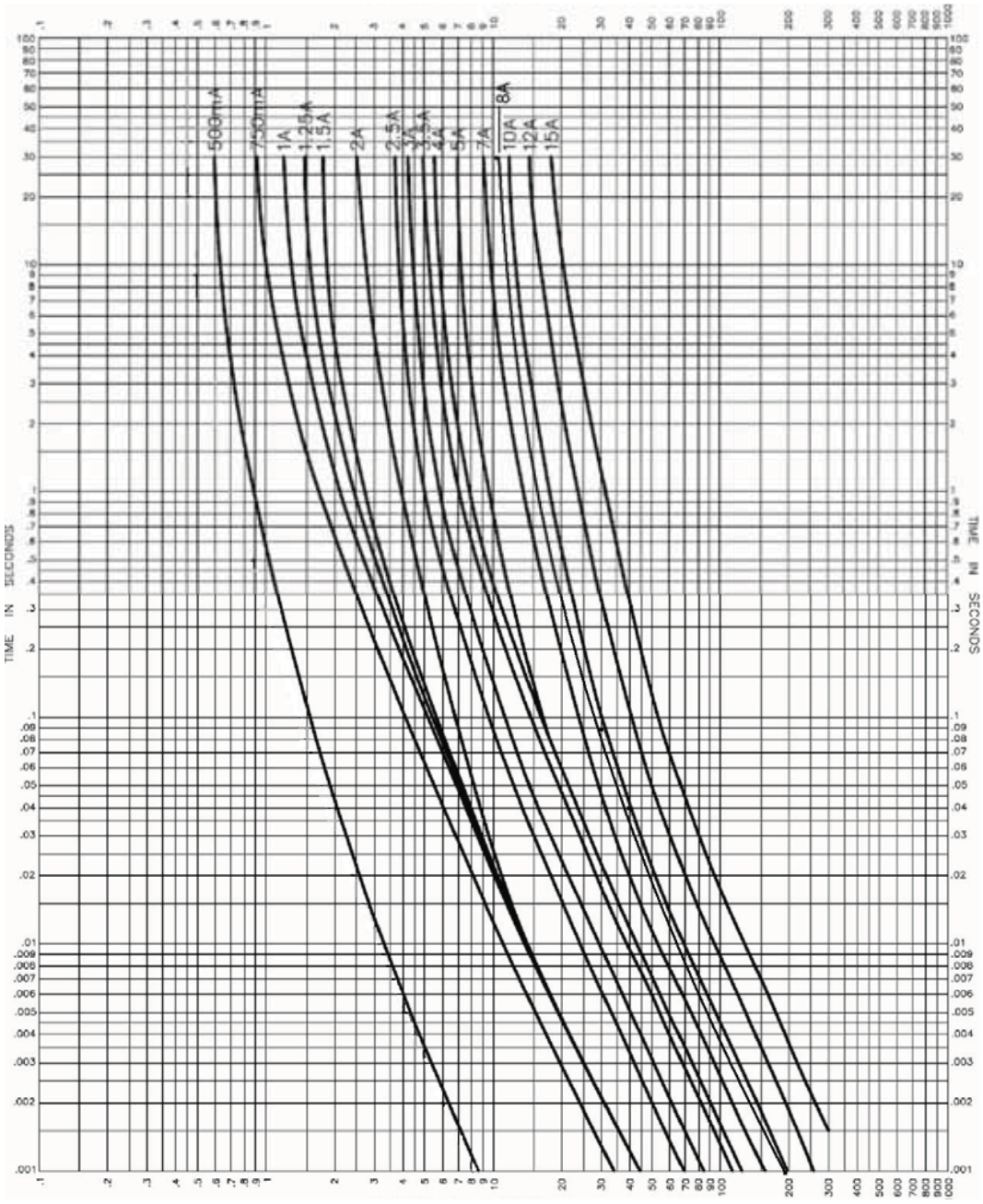


Recommended pad layout–mm (in)



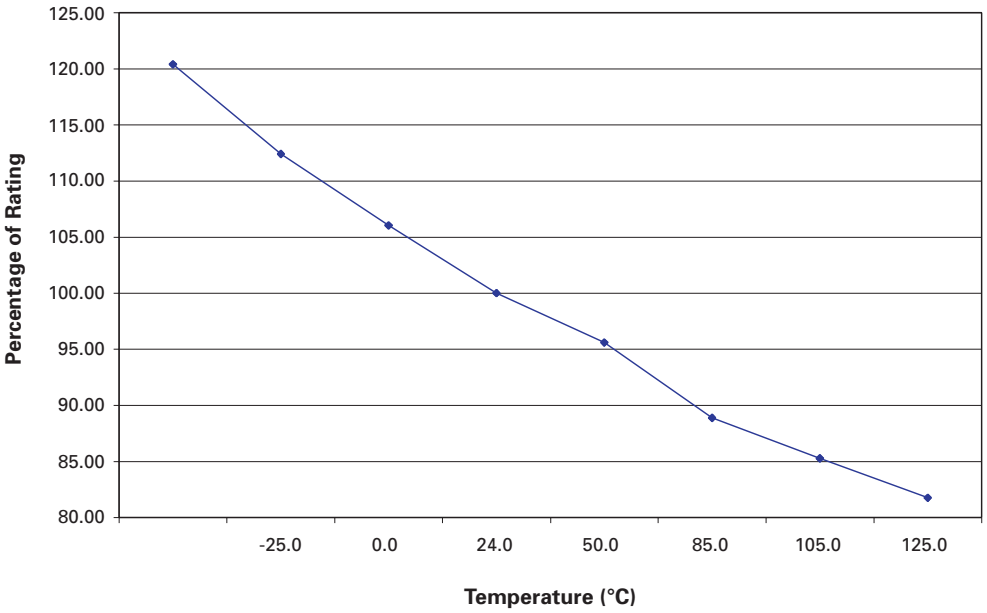
Time vs. current curve

CURRENT IN AMPS



CURRENT IN AMPS

Temperature derating curve



Environmental data

Operating temperature: -55°C to 125°C (with derating)
Storage temperature: -55°C to 125°C
Mechanical shock: MIL- STD- 202, method 213
High frequency vibration: MIL- STD- 202, method 204
Load humidity: MIL- STD- 202, method 103
Moisture resistance: MIL- STD- 202, method 106
Resistance to solvents: MIL- STD- 202, method 215
Thermal shock: MIL- STD- 202, Method 107

Solder Reflow Profile

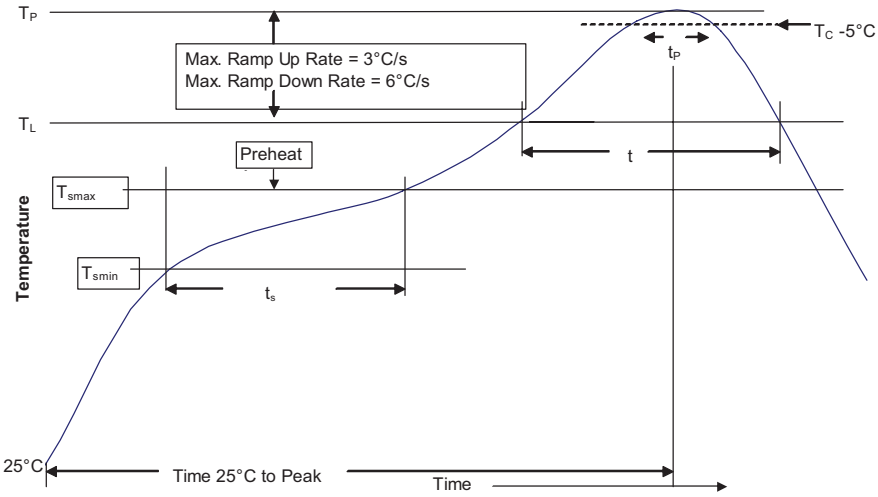


Table 1 - Standard SnPb Solder (T_C)

Package Thickness	Volume mm3 <350	Volume mm3 ≥350
<2.5mm)	235°C	220°C
≥2.5mm	220°C	220°C

Table 2 - Lead (Pb) Free Solder (T_C)

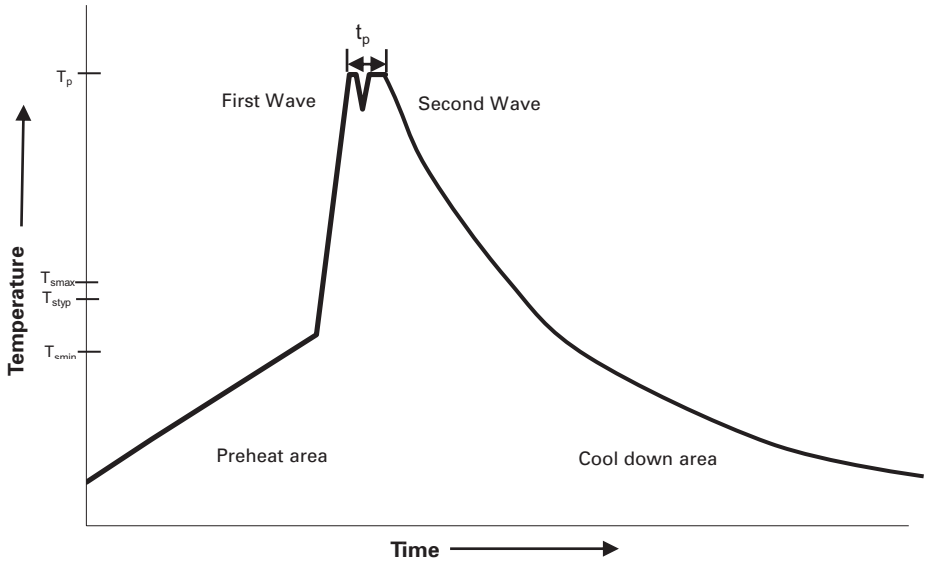
Package Thickness	Volume mm³ <350	Volume mm³ 350 - 2000	Volume mm³ >2000
<1.6mm	260°C	260°C	260°C
1.6 – 2.5mm	260°C	250°C	245°C
>2.5mm	250°C	245°C	245°C

Reference JDEC J-STD-020D

Profile Feature	Standard SnPb Solder	Lead (Pb) Free Solder
Preheat and Soak • Temperature min. (T_{smin})	100°C	150°C
• Temperature max. (T_{smax})	150°C	200°C
• Time (T_{smin} to T_{smax}) (t_s)	60-120 Seconds	60-120 Seconds
Average ramp up rate T_{smax} to T_p	3°C/ Second Max.	3°C/ Second Max.
Liquidous temperature (T_L) Time at liquidous (t_L)	183°C 60-150 Seconds	217°C 60-150 Seconds
Peak package body temperature (T_P)*	Table 1	Table 2
Time (t_p)** within 5 °C of the specified classification temperature (T_c)	20 Seconds**	30 Seconds**
Average ramp-down rate (T_p to T_{smax})	6°C/ Second Max.	6°C/ Second Max.
Time 25°C to Peak Temperature	6 Minutes Max.	8 Minutes Max.

* Tolerance for peak profile temperature (T_p) is defined as a supplier minimum and a user maximum.
** Tolerance for time at peak profile temperature (t_p) is defined as a supplier minimum and a user maximum.

Wave solder profile



Reference EN 61760-1:2006

Profile feature	Standard SnPb solder	Lead (Pb) free solder
Preheat and soak • Temperature min. (T_{smin})	100°C	100°C
• Temperature typ. (T_{styp})	120°C	120°C
• Temperature max. (T_{smax})	130°C	130°C
• Time max. (T_{smin} to T_{smax}) (t_s)	70 Seconds	70 Seconds
Δ preheat to max Temeperature	150°C max.	150°C max.
Peak temperature (Tp)	235°C - 260°C	250°C - 260°C
Peak package body temperature (Tp)*	Table 1	Table 2
Time at peak temperature (t_p)	10 seconds max 5 seconds max each wave	10 seconds max 5 seconds max each
Ramp-down rate	~ 2 K/s min ~3.5 K/s typ ~5 K/s max	~ 2 K/s min ~3.5 K/s typ ~5 K/s max
Time 25°C to 25°C	4 minutes	4 minutes

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