

Manufacturer: Shenzhen Milliohm Electronic Co., Ltd.

Application: This datasheet is applicable to the selection of lead-free current detection

HoCAMF products of Shenzhen Milliohm Electronic Co.Ltd

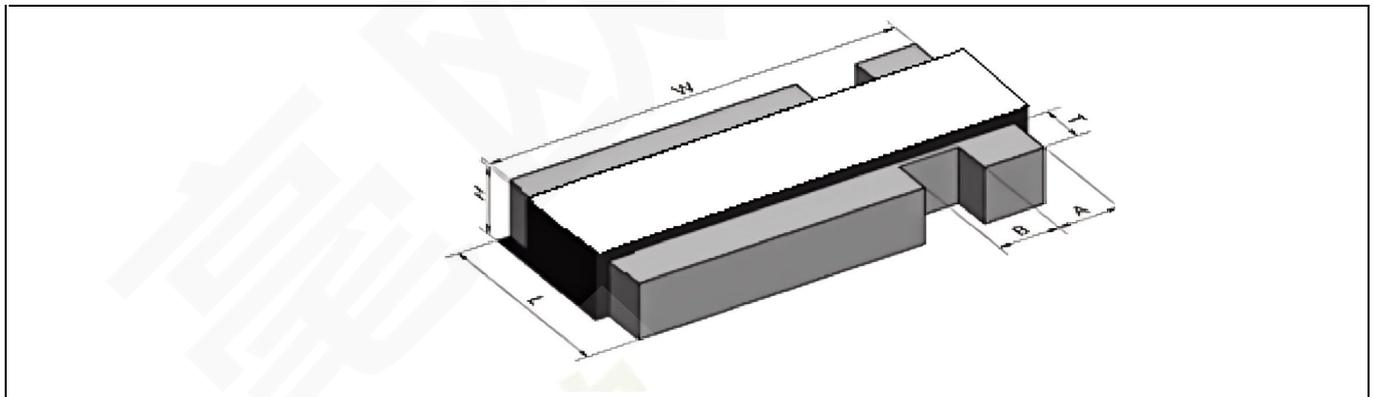
Parameters

Series	Package	Resistance	Power	Tolerance	T.C.R	Operating Temperature Range
CAMF	0612	1~20 mR	1W	±1% ±2% ±5%	±100ppm/°C	-55°C~+150°C
	0508	1~15 mR	3/4W			
	0306	1~15 mR	1/2W			

Part Number

Ho	CAMF	0612	1W	10mR	1%
Manufacturer	Product Category	Package	Rated Power	Resistance	Tolerance
Milliohm Electronic	CAMF	0306	1/2W	1mR~15mR	±1%
		0508	3/4W	1mR~15mR	±2%
		0612	1W	1mR~20mR	±5%

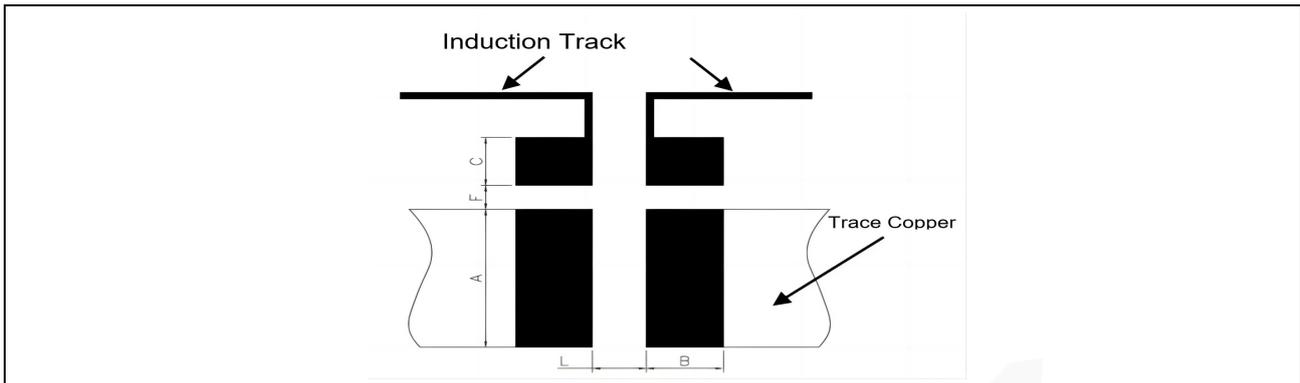
Dimension



Package	Resistance	L	W	H	B	A	T
0306	1mR~15mR	0.8±0.2	1.7±0.2	0.5±0.2	0.35±0.2	0.35±0.2	0.25±0.2
0508	1mR~15mR	1.25±0.2	2.0±0.2	0.6±0.2	0.4±0.2	0.35±0.2	0.3±0.2
0612	1mR~20mR	1.6±0.2	3.2±0.2	0.5±0.2	0.5±0.2	0.5±0.2	0.45±0.2



■ Recommended pad size



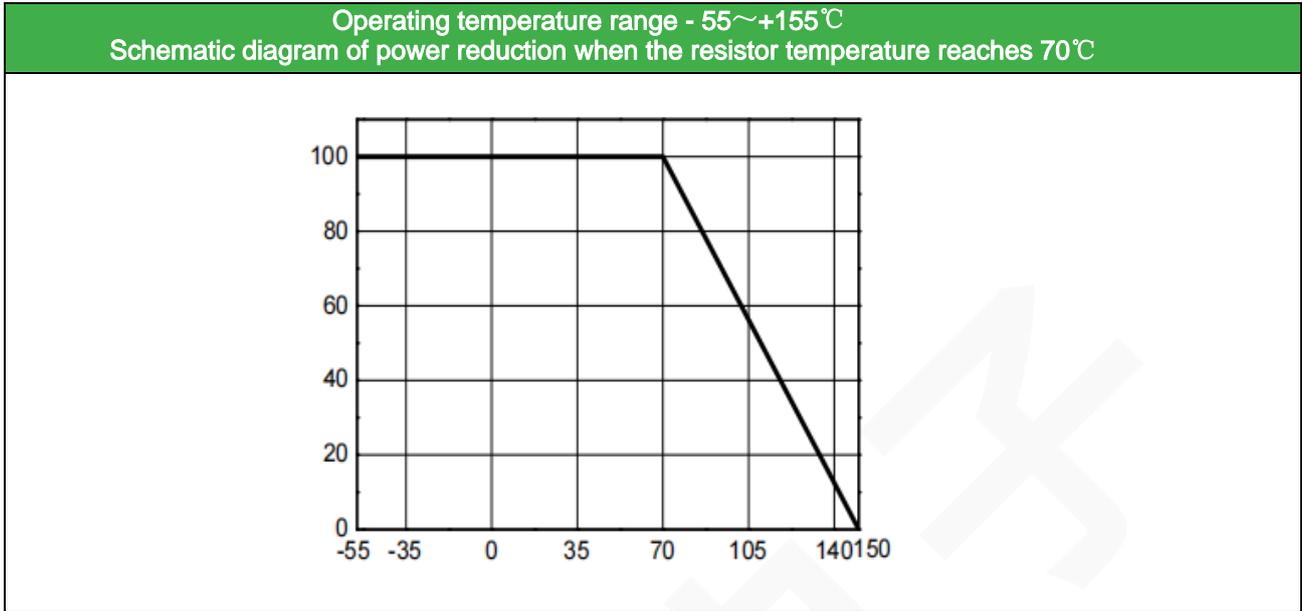
Series	Resistance(mΩ)	A	B	C	L	F
CAMF0612	$1 \leq R \leq 20$	2.50	1.00	0.80	0.70	0.50
CAMF0508	$1 \leq R \leq 15$	1.55	0.90	0.65	0.60	0.40
CAMF0306	$1 \leq R \leq 15$	1.30	0.80	0.65	0.35	0.40

■ Reliability Test

Testing Item	Standard	Testing Conditions	Testing Limit
T.C.R	IEC60115-1 4.8 JIS C 5201-1 4.8	+25°C ~ +125°C	Refer 4.0
Load Life	IEC60115-1 4.25.1 JIS C 5201-1 4.25.1	1000 hours at rated power, 70°C, "on" 1.5 hours, "off" 0.5 hours	< ±2%
Short-term overload	IEC60115-1 4.13 JIS C 5201-1 4.13	5 times rated power, 5 seconds	< ±1%
No load humidity	IEC60115-1 4.24.2.1a) JIS C 5201-1 4.24.2.1a)	85°C, 85% relative humidity, 1000 hours	< ±1%
Temperature Cycle	IEC60115-1 4.19 JIS C 5201-1 4.19	-55°C and +125°C, 100 cycles, 15 minutes at each extreme condition	< ±1%
Resistant to welding heat	IEC60115-1 4.18 JIS C 5201-1 4.18	260±5°C , 10±1 Seconds	< ±1%
Solderability	IEC60115-1 4.17 JIS C 5201-1 4.17	245±5°C , 2±0.5 Seconds	At least 95% of the electrode surface area should be covered with new solder.
High temperature exposure	IEC60115-1 4.23.2 JIS C 5201-1 4.23.2	155°C, 1000 hours	< ±1%
Low temperature storage	IEC60115-1 4.23.4 JIS C 5201-1 4.23.4	-55°C , 1000 hours	< ±1%
Base bending	IEC60115-1 4.33 JIS C 5201-1 4.33	Bend Width 2 mm	< ±1%
Insulation resistance	IEC60115-1 4.6 JIS C 5201-1 4.6	100 V DC 1 minute	>100 MΩ

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■ Power curve



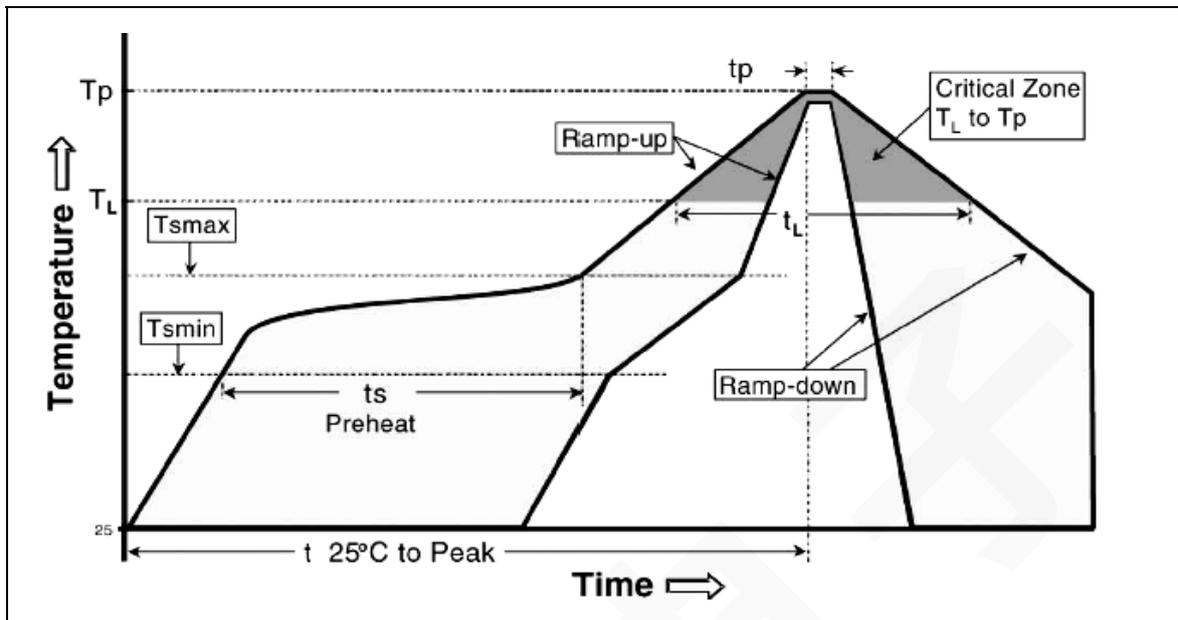
■ Rated current calculation formula

Rated current calculation formula

$$I = \sqrt{P/R}$$

I :Rated Current (A)
P:Rated Power (W)
R:Resistance (Ω)

■ Reflow curve (Solder: Sn96.5 / Ag3 / Cu0.5)



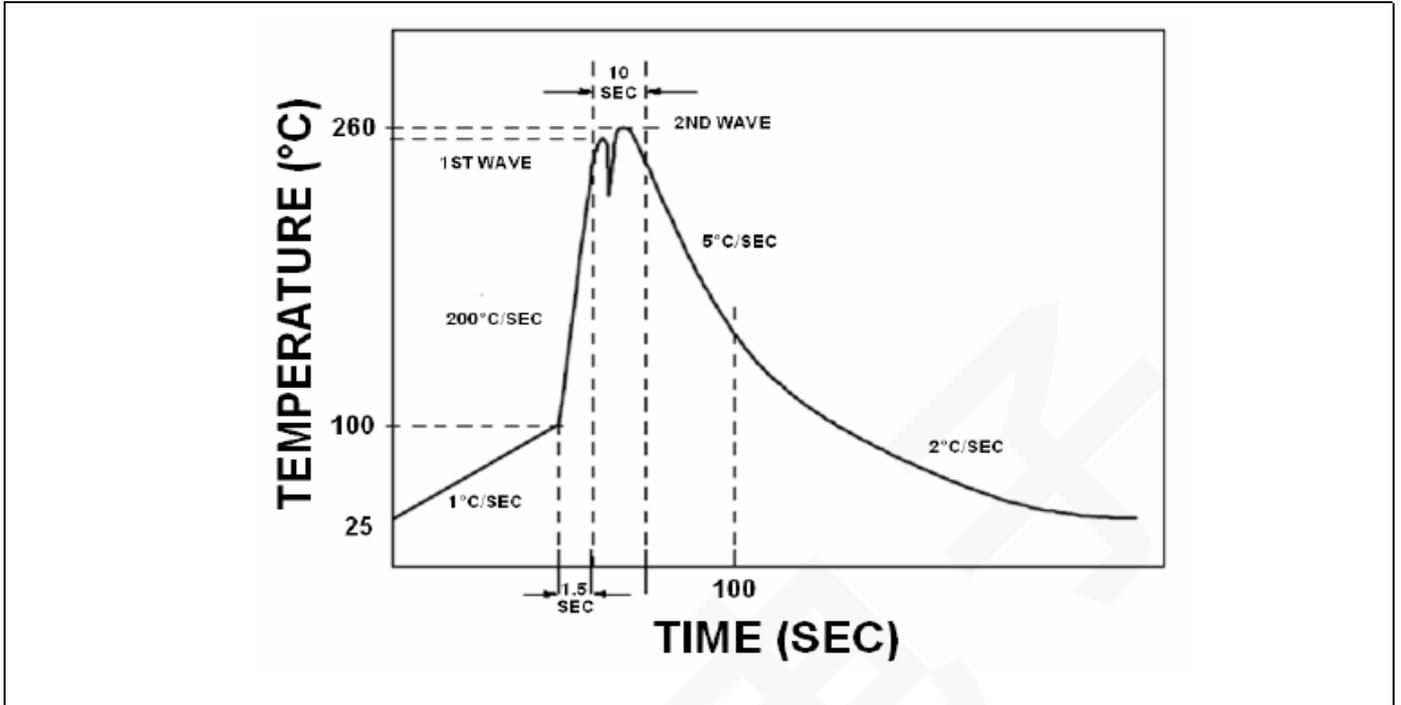
Allowable reflow time: 3 times

Note: To avoid discoloration of the chip on the terminal electrode, use an N2 reflow oven.

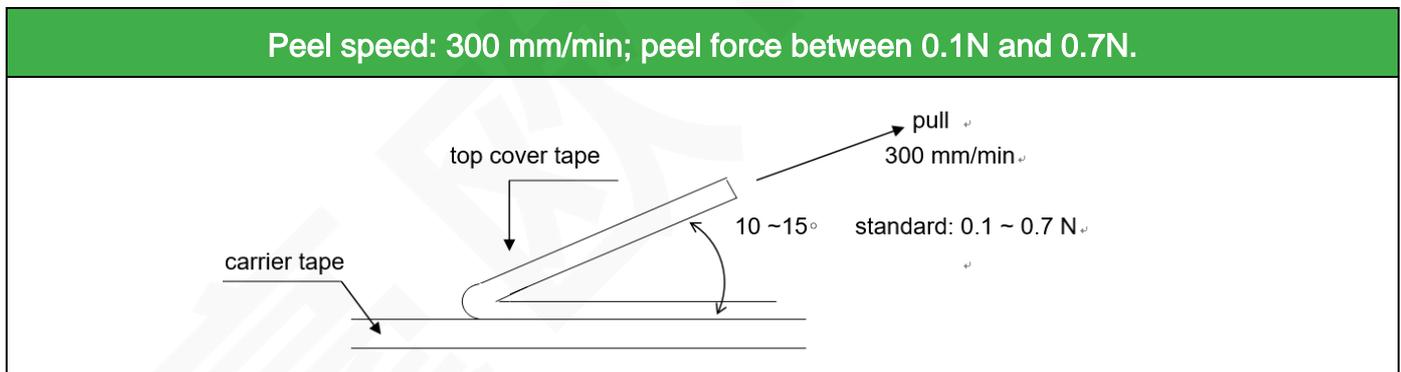
Iron soldering: $350 \pm 10^{\circ}C$, $3+1/-0$ seconds, 1 time

Function Introduction	Lead-free assembly
Average heating rate (T_{smax} to T_p)	Maximum $3^{\circ}C/Sec$
Preheating -Minimum temperature (T_{smin}) -Maximum temperature (T_{smax}) -Time (T_{smin} to T_{smax}) (t_s)	$150^{\circ}C$ $200^{\circ}C$ 60 -120 Sec
Time remains constant: -Temperature (T_l) -Time (T_l)	$217^{\circ}C$ 60-150 Sec
Peak temperature (T_p)	$260^{\circ}C$
Actual peak $+0^{\circ}C$ Time within $-5^{\circ}C$ Temperature (t_p) $_2$	10 Sec
Ramp down rate	Maximum $6^{\circ}C/Sec$
$25^{\circ}C$ time to peak temperature	Up to 8 minutes

■ Recommended wave soldering (Solder: Sn96.5 / Ag3 / Cu0.5)



■ Peel strength of upper tape



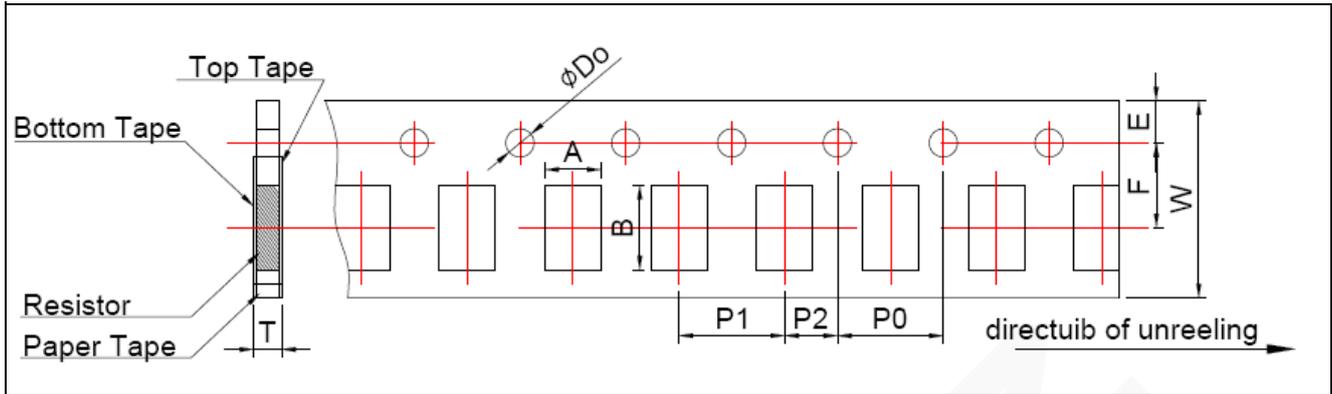
■ Storage conditions

Temperature: 5°C~35°C, humidity: 40%~75%

■ Warranty period

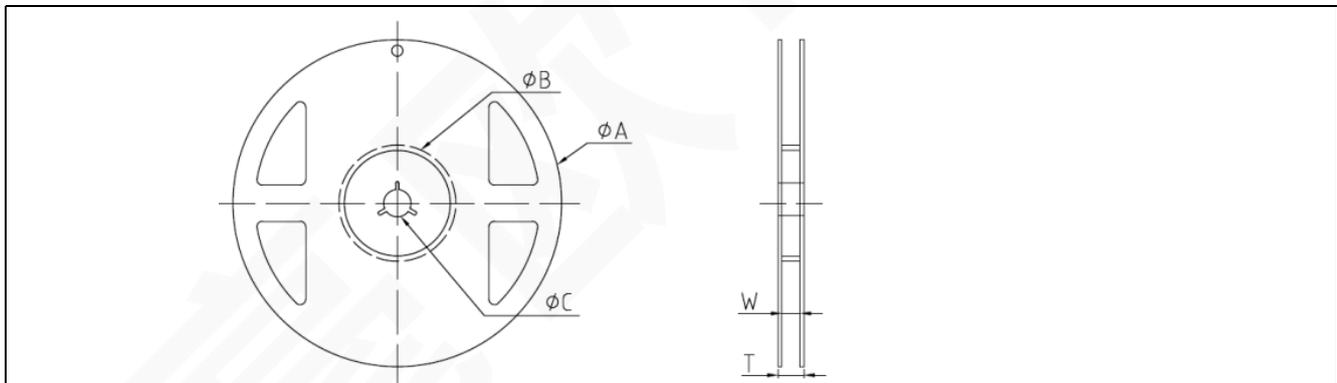
2 years from date of manufacture.

Carrier tape size (mm)



Packing	Package	A	B	W	F	E	P1	P2	P0	$\phi D0$	T
Masking tape	0612	2.00	3.60	8.00	3.50	1.75	4.00	2.00	4.00	1.55	0.95
	0508	1.60	2.40	8.00	3.50	1.75	4.00	2.00	4.00	1.55	0.95
	0306	1.10	1.90	8.00	3.50	1.75	2.00	2.00	4.00	1.55	0.60
General tolerance		± 0.15	± 0.20	± 0.20	± 0.05	± 0.10					

Reel Specifications (mm)



Package	ϕA	ϕB	ϕC	W	T	Reel Q'ty
0612	178.0 ± 2.0	60.0 ± 1.0	13.0 ± 1.0	9.0 ± 1.0	11.4 ± 1.0	4000
0508						4000
0306						5000