客户（Customer）:_____

承认书
Approval Sheet

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同时敬请送返一份附有贵公司签认之测试认定后之样品承认书.

We are pleased in sending you herewith on specification and drawings for your approval.
Please return to us one copy “Approval sheet” with your approved signature.

型号（Model No.） : AM817 Series

发文日期（Issue Date）: 2022/09/14 承认日期（Approved Date）:_____

Checking signature of Amicc

Designer	Checker	Approver
Money		

Approval signature of customer

Designer	Checker	Approver

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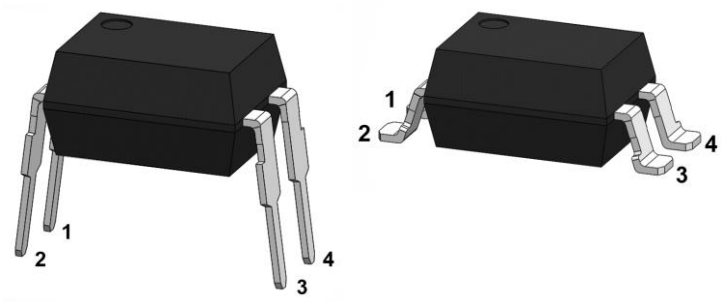
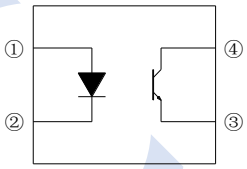
4 PIN DIP PHOTOTRANSISTOR PHOTOCOUPLER
AM817 Series



Pin and Internal Connection Diagram



1. Anode
2. Cathode
3. Emitter
4. Collector

Features

- Current transfer ratio (CTR: 50~600% at IF = 5mA, VCE = 5V)
- High input-output isolation voltage (Viso = 5,000Vrms)
- Creepage distance > 7.62mm
- Operating temperature up to +110°C

Description

The AM817 series of devices each consist of an infrared emitting diodes, optically coupled to a phototransistor detector.
They are packaged in a 4-pin DIP package and two forms (DIP, SMD).

Applications

•Programmable controllers

•Home appliances, such as air conditioners, fans, water heaters, etc.

•Industrial control, measuring instruments

•Switching power supply, smart meter

Absolute Maximum Ratings (Ta=25℃)

Parameter		Symbol	Rating	Unit
Input	Forward Current	I_F	50	mA
	Reverse Voltage	V_R	6	V
	Power Dissipation	P_D	70	mW
	Thermal Resistance Junction-Ambient	Rth_{J-A}	325	°C/W
	Thermal Resistance Junction-Case	Rth_{J-C}	200	°C/W
Output	Power Dissipation	P_C	150	mW
	Collector Current	I_C	50	mA
	Collector-Emitter Voltage	V_{CEO}	80	V
	Emitter-Collector Voltage	V_{ECO}	7	V
Total Power Dissipation		P_{TOT}	200	mW
Isolation Voltage*1		V_{ISO}	5000	Vrms
Operating Temperature		T_{OPR}	-55 to 110	°C
Storage Temperature		T_{STG}	-55 to 125	°C
Soldering Temperature*2		T_{SOL}	260	°C

Notes:

*1. AC For 1 Minute, R.H. = 40 ~ 60%

Isolation voltage shall be measured using the following method.

(1) Short between anode and cathode on the primary side and between collector and emitter on the secondary side.

(2) The isolation voltage tester with zero-cross circuit shall be used.

(3) The waveform of applied voltage shall be a sine wave.

*2. For 10 Seconds

Electro-Optical Characteristics (Ta=25°C)

Parameter			Symbol	Min.	Typ.	Max.	Unit	Test Condition
Input	Forward Voltage		V_F	-	1.2	1.4	V	I_F = 20mA
	Reverse Current		I_R	-	-	10	μA	V_R = 4V
	Terminal Capacitance		Ct	-	30	250	pF	V = 0, f = 1KHz
Output	Collector Dark Current		I_{CEO}	-	-	100	nA	V_{CE} = 20V, I_F = 0
	Collector-Emitter Breakdown Voltage		BV_{CEO}	80	-	-	V	I_C = 0.1mA
	Emitter-Collector Breakdown Voltage		BV_{ECO}	7	-	-	V	I_E = 0.1mA
Transfer Characteristics	Current Transfer Ratio	AM817	CTR*	50	-	600	%	I_F = 5mA, V_{CE} = 5V
		AM817A		80	-	160		
		AM817B		130	-	260		
		AM817C		200	-	400		
		AM817D		300	-	600		
		AM817X		100	-	200		
		AM817Y		150	-	300		
	Collector-Emitter Saturation Voltage		$V_{CE(sat)}$	-	0.1	0.2	V	I_F = 20mA, I_C = 1mA
	Isolation Resistance		R_{IO}	5×10^{10}	-	-	Ω	DC 500V, 40~60% R.H.
	Floating Capacitance		C_{IO}	-	0.6	1.0	pF	V_{IO} = 0, f = 1MHz
	Cut-off Frequency		f_c	-	80	-	kHz	V_{CE} = 5V, I_C = 2mA R_L = 100Ω, -3dB
	Rise time		t_r	-	6	18	μs	V_{CE} = 2V, I_C = 2mA, R_L = 100Ω
	Fall time		t_f	-	8	18	μs	

* CTR=I_C / I_F *100%

Typical Electro-Optical Characteristics Curves

Fig.1 - Forward Current vs Forward Voltage

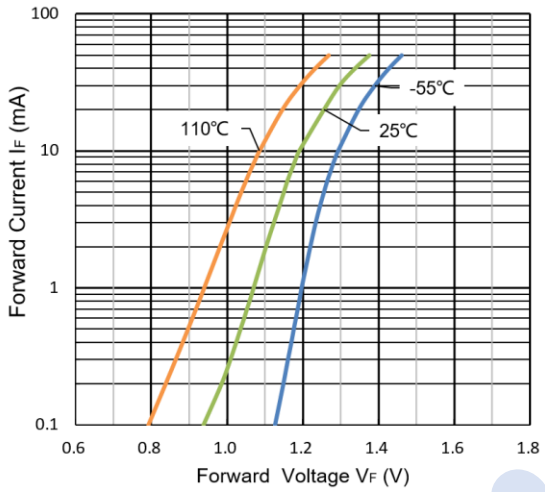


Fig.2 - Relative Current Transfer Ratio vs Forward Current

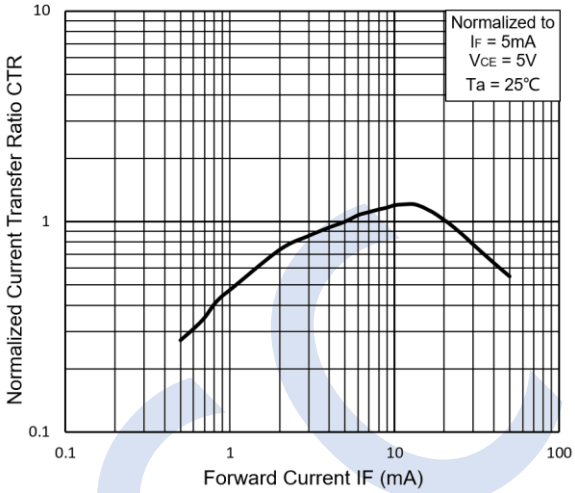


Fig.3 - Relative Current Transfer Ratio vs Ambient Temperature

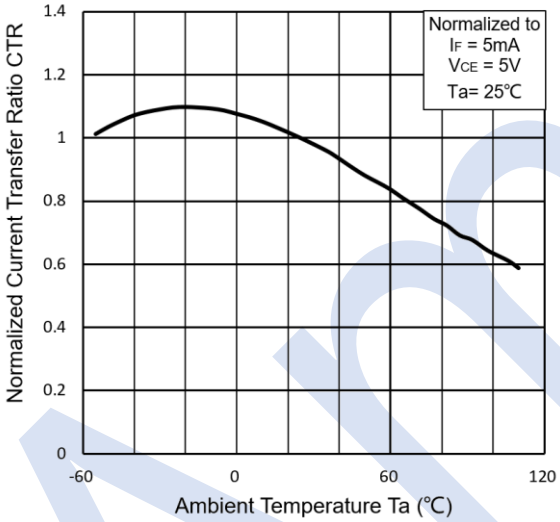


Fig.4 - Collector Dark Current vs Ambient Temperature

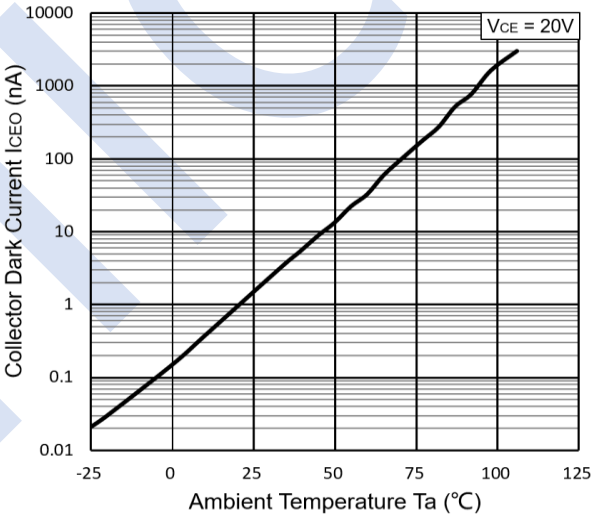


Fig.5 - Collector-Emitter Voltage vs Collector Current

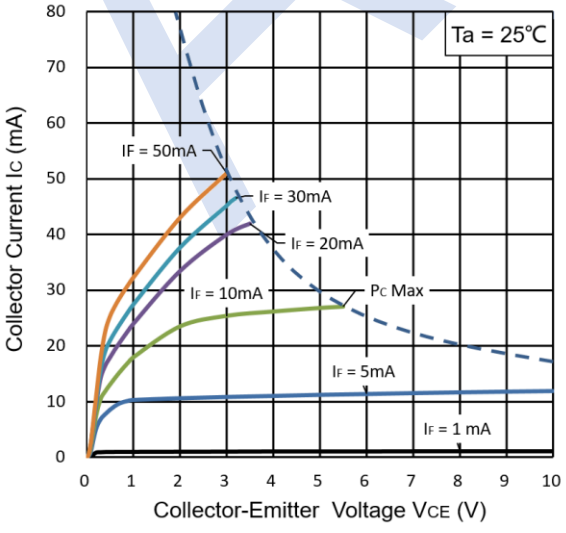


Fig.6 - Switching Time vs Load Resistance

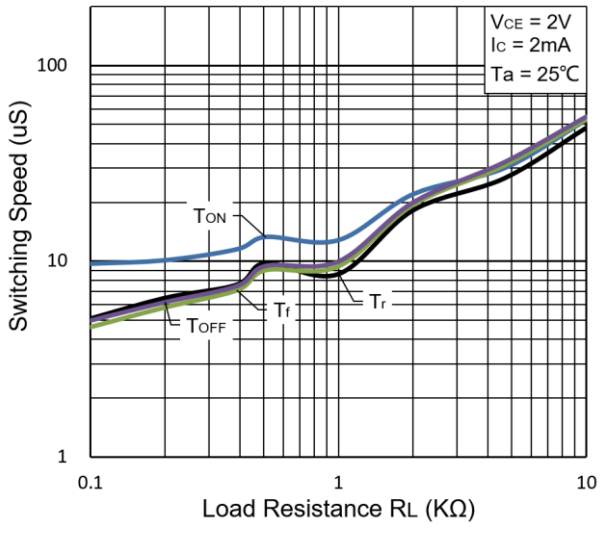
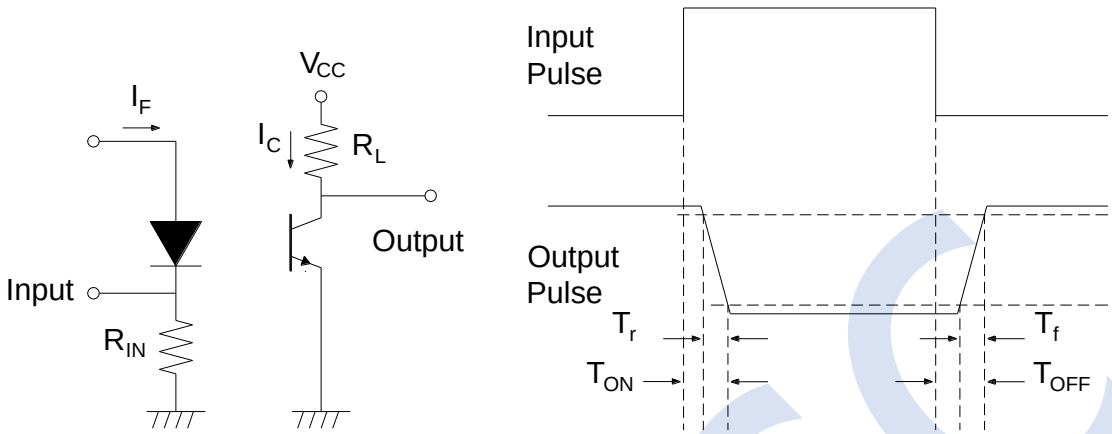


Fig.7 - **Switching Time Test Circuit & Waveforms**



Order Information

Part Number

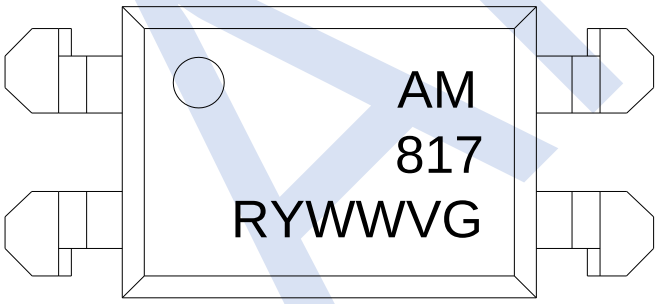
AM817X(Y)(Z)-FVG

Note

X = Lead form option
No suffix = Dual-in-Line package
S = Surface mounting package
M = Wide lead spacing package
Y = CTR Rank
Please refer to the CTR table on Page P4
Z = TAPING TYPE
T1, T2, or none)
F = Lead frame option
F = Iron, C = copper)
V = VDE order option
G = Halogen free option

Option	Description	Packing quantity		
None	Dual-in-Line package	100 units per tube	50 tubes/inner box	10 inner boxes/outer box
S	Surface mounting package	2000 units per reel	4 reels/inner box	5 inner boxes/outer box

Device Marking

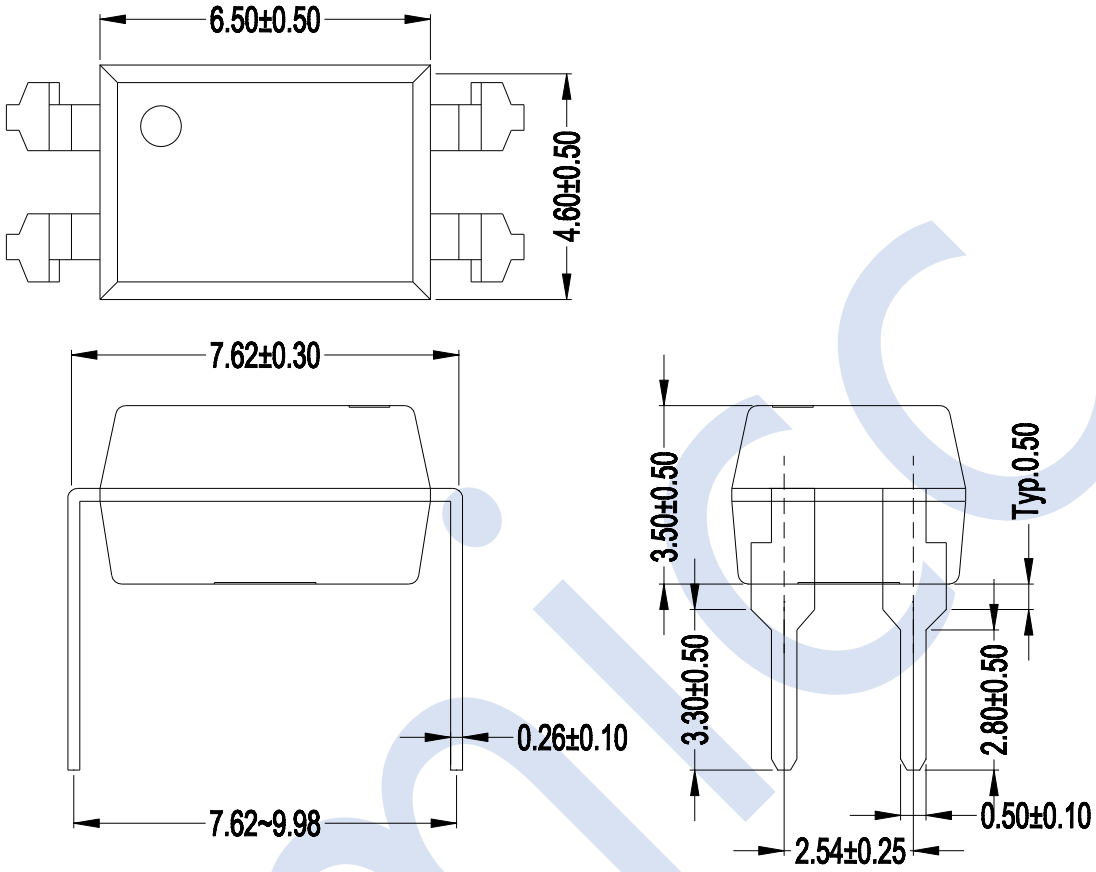


Notes

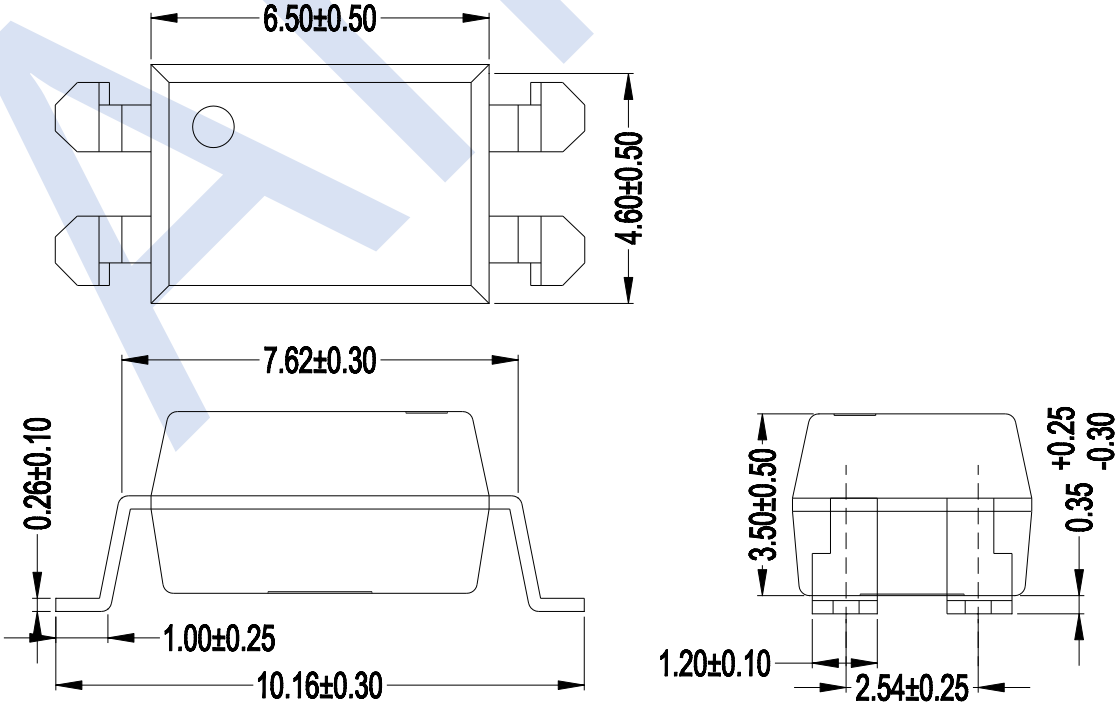
AM denotes Amicc
817 denotes Device Number
R denotes CTR Rank
Y denotes 1 digit Year code
WW denotes 2 digit Week code
V denotes VDE (optional)
G denotes Halogen free

Package Dimension (Dimensions in mm)

Dual-in-Line package

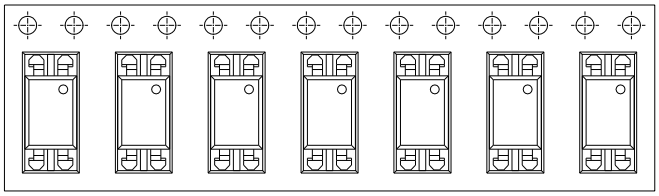


Surface mounting package

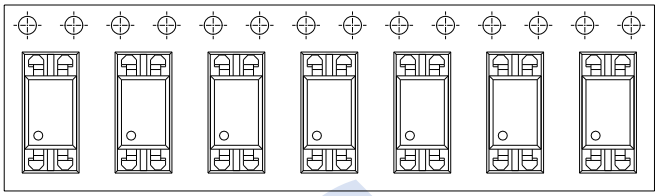


Tape & Reel Packing Specifications

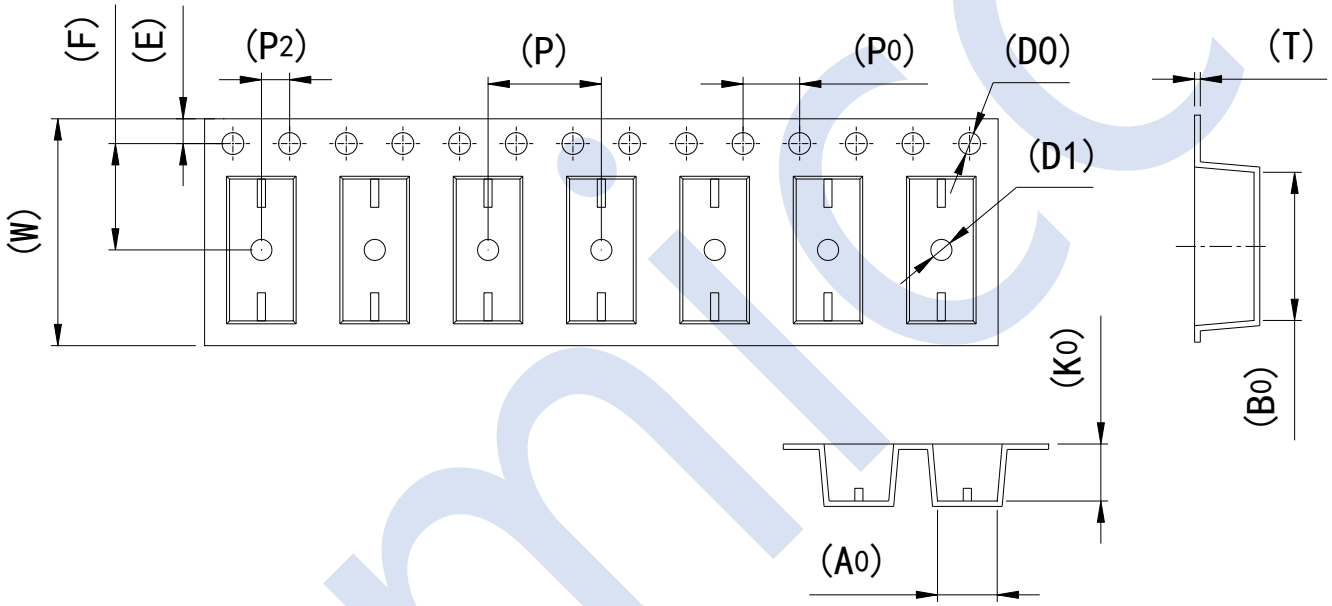
T1



T2

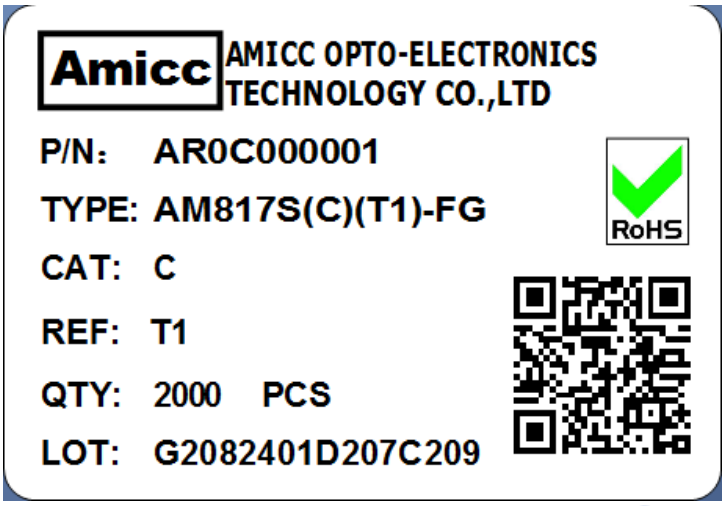


Tape dimensions



Dimension No.	A0	B0	D0	D1	E	F
mm	4.70±0.10	10.45±0.10	1.55±0.10	1.50±0.10	1.75±0.10	7.50±0.10
Dimension No.	P0	P1	P2	T	W	K0
mm	4.00±0.10	8.00±0.10	2.00±0.10	0.35±0.10	16.00±0.30	4.10±0.10

Label Explanation



◆P/N: Product Number

◆TYPE: Part No.

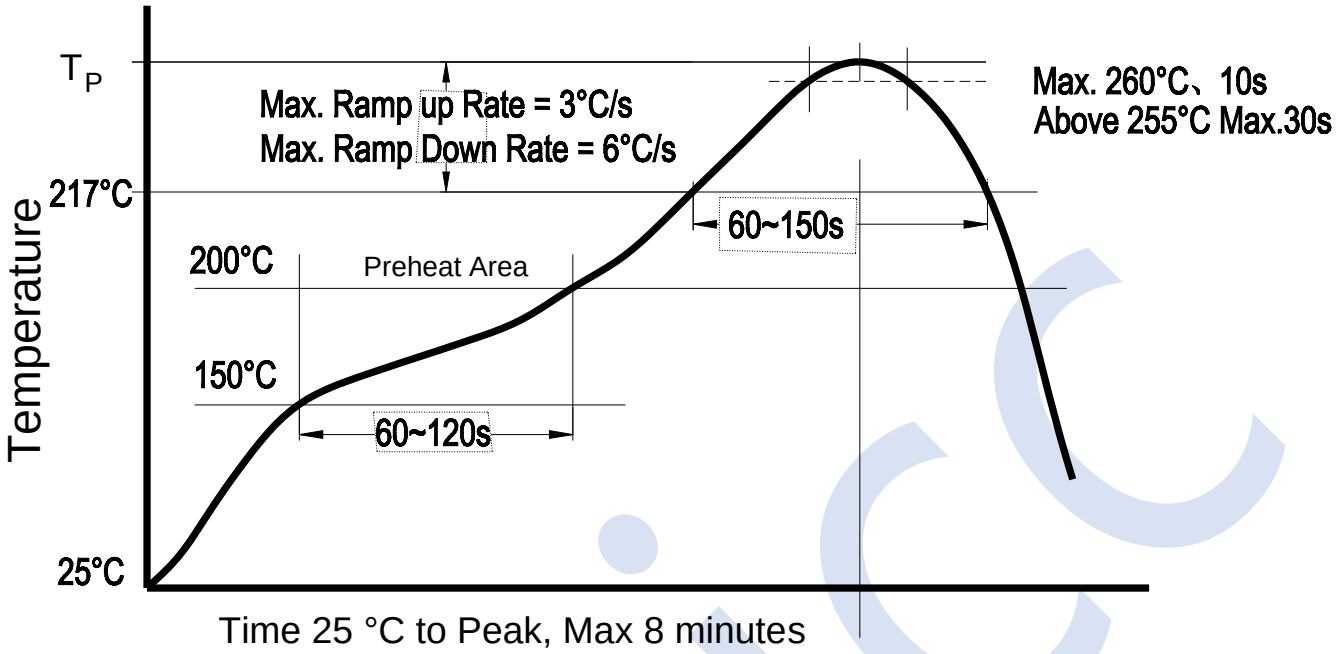
◆CAT: BIN Number

◆REF: Packaging Number

◆QTY: Packing Quantity

◆LOT: Lot Number

Recommended soldering conditions of reflow



Soldering times: 3 times

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