

- Series **HTX** Vertical Chip Conductive Polymer Hybrid Aluminum Electrolytic Capacitors.
- For surface mount 135 deg C or 125 deg C 4000 hours guaranteed.
- For vibration resistance type (30G guaranteed)
- RoHS Compliant. ● AEC-Q200 Compliant.
- **New P/N : RAHTX471M1TFK5002PZA** (Old P/N : HTX-25V471HC5PZAQ-R2)

■ Spec sheet

XHQP-B57AZQ

Item	Performance			
Category temperature range (deg C)	-55 to +135			
Rated Voltage (V)	25			
Rated Capacitance (uF)	470 (20deg C,120Hz)			
Tolerance at rated capacitance (%)	-20 to +20 (20deg C,120Hz)			
Leakage current (uA)	Less than 118uA (25V after 2 minutes) (20deg C)			
Tangent of loss angle (max.)	Rated voltage (V)	25	(20deg C,120Hz)	
	Tangent of loss angle	0.14		
ESR (mohm max.)	ESR	10	(20deg C,100kHz)	
Rated ripple current (mArms)	Temperature (deg C)	135	125	(100kHz)
	Rated Ripple Current	3500	5000	
Endurance 1 (135deg C) (Applied ripple current)	Test time		4000 hours	
	Leakage current		The initial specified value or less	
	Capacitance change		Within -30% to +30% of initial value	
	Tangent of loss angle		200% or less of the initial specified value	
	ESR		200% or less of the initial specified value	
Endurance 2 (125deg C) (Applied ripple current)	Test time		4000 hours	
	Leakage current		The initial specified value or less	
	Capacitance change		Within -30% to +30% of initial value	
	Tangent of loss angle		200% or less of the initial specified value	
	ESR		200% or less of the initial specified value	
Shelf life(135deg C)	Test time		1000 hours	
	Leakage current		The initial specified value or less	
	Capacitance change		Within -30% to +30% of initial value	
	Tangent of loss angle		200% or less of the initial specified value	
	ESR		200% or less of the initial specified value	
Voltage application treatment				

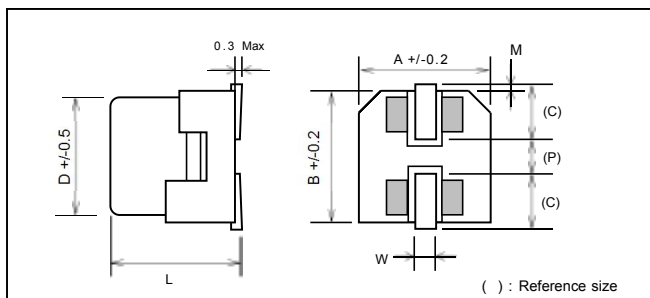
■ Part numbering system

R	A	HTX	471	M	1T	FK5	002	PZA
Product group Electrolytic capacitor	Category For automotive AEC-Q200	Series code	Rated capacitance code	Capacitance tolerance code	Rated voltage code	Case size code	Taping and packing code	Additional code

■ Coefficient of Frequency for Rated Ripple Current

Rated capacitance(uF)	Frequency(Hz)	120	1k	10k	100k
470		0.10	0.30	0.60	1.00

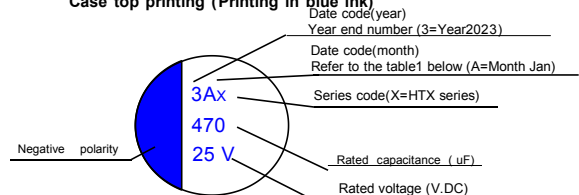
■ Outline drawing



D	L	A	B	C	W	P	M
10	12.5 +/-0.5	10.4	10.4	3.6	0.7 to 1.1	4.7	0.4 +/-0.2

■ Marking

Case top printing (Printing in blue ink)



Month	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
Code	A	B	C	D	E	F	G	H	I	J	K	L

■ Weight : 1.8g

*Weight of item isn't guaranteed.

(Note) It is recommended that you shall obtain technical specifications from ELNA CO., LTD to ensure that the component is suitable for your intended use.

ELNA CO., LTD.

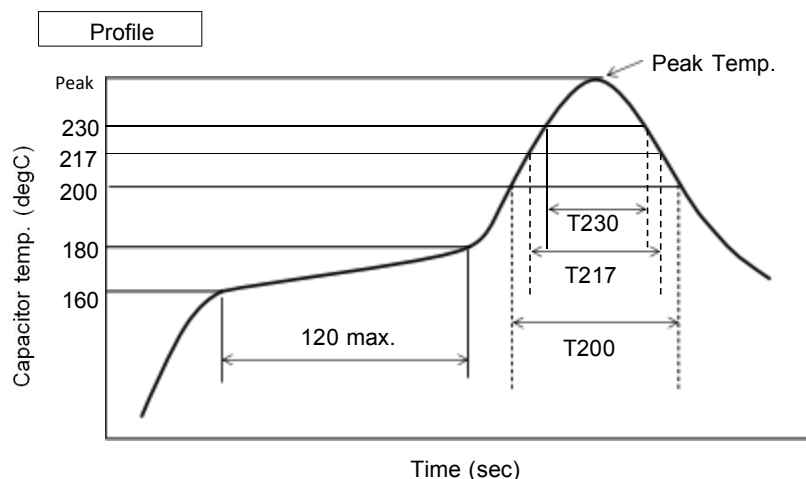
<http://www.ena.co.jp/>

Kyobashi East Bldg., 2-7-19, Kyobashi, Chuo-ku, Tokyo 104-0031, Japan

TEL:03-4221-4950 FAX:03-4221-4951

(1) Soldering iron conditions

Iron tip temperature shall be 400degC +5/-5degC within the duration of 3 +1/-0 seconds.

(2) Reflow soldering conditions

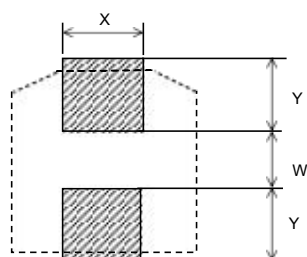
T200: Duration while capacitor head temperature exceeds 200 degC(sec)

T217: Duration while capacitor head temperature exceeds 217 degC(sec)

T230: Duration while capacitor head temperature exceeds 230 degC(sec)

The measurement temperature point is the case top.

Pre heat	Peak temp.	Time in peak temperature	T200 (sec)	T217 (sec)	T230 (sec)	reflow cycle
160 to 180 degC 120sec max	260deg C max	≥ 250 deg C 5sec	70 max	40 max	30 max	1 times or less
160 to 180 degC 120sec max	245deg C max	≥ 240 deg C 10sec	70 max	40 max	30 max	2 times or less

■ Recommended land pattern size

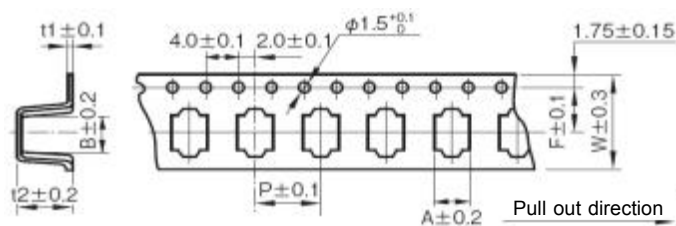
X	Y	W
5.0	4.8	3.6

Recommended Solder Paste Thickness : 0.20mm

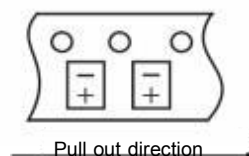
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■ Tape and Reel

(1) Carrier Tape



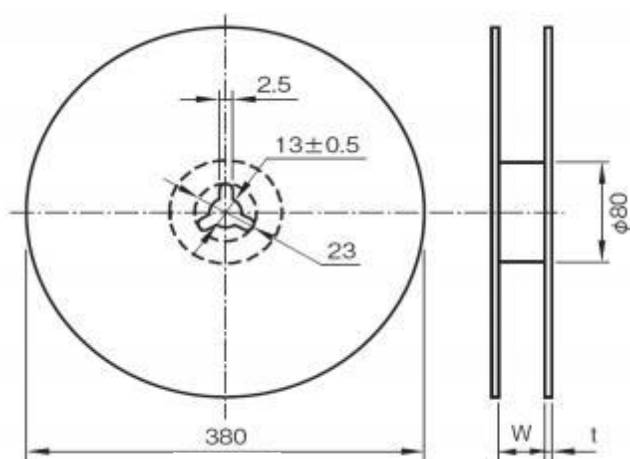
(2) Polarity



Unit : mm

W	A	B	P	t2	F	t1
24	10.7	10.7	16	13	11.5	0.4

(3) Reel



Unit : mm

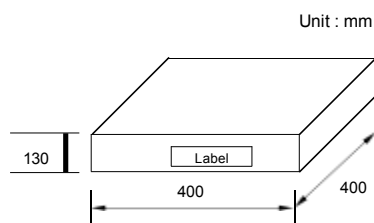
W	t
26	3

(4) Quantity

Case size	Quantity per reel
10x12.5	400 pcs

■ Packing specification

(1) Inner box



Unit : mm

(2) Packing quantity

Case size	Quantity per inner box
10x12.5	1600 pcs

(3) Packing weight

Case size	Weight per inner box
10x12.5	5.3 kg

*Weight of item isn't guaranteed.

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