

# Surface Mount Military



## CWR09 - MIL-PRF-55365/4 and TAZ COTS-Plus

AVX Part Number	QPL Part Number (for reference only)	DC rated voltage (85°C) (volts)	Cap (nom) µF	DC Leakage (max)			Dissipation Factor (max)			ESR (max) 100 kHz +25°C (Ohms)	Case Size
				+25°C (µA)	+85°C (µA)	+125°C (µA)	+25°C (%)	+85/125°C (%)	-55°C (%)		
TAZA225*004C□#@0^++	CWR09C^225*+□	4	2.2	1.0	10	12	6	8	8	8.0	A
TAZA475*004C□#@0^++		4	4.7	1.0	10	12	6	8	8	12.0	A
TAZB475*004C□#@0^++	CWR09C^475*+□	4	4.7	1.0	10	12	6	8	8	8.0	B
TAZB106*004C□#@0^++		4	10.0	1.0	10	12	8	10	10	8.0	B
TAZD106*004C□#@0^++	CWR09C^106*+□	4	10.0	1.0	10	12	8	8	10	4.0	D
TAZE156*004C□#@0^++	CWR09C^156*+□	4	15.0	1.0	10	12	8	10	12	3.5	E
TAZD226*004C□#@0^++		4	22.0	1.0	10	12	8	10	12	4.0	D
TAZE336*004C□#@0^++		4	33.0	2.0	20	24	8	10	12	3.0	E
TAZF336*004C□#@0^++	CWR09C^336*+□	4	33.0	2.0	20	24	8	10	12	2.2	F
TAZG686*004C□#@0^++	CWR09C^686*+□	4	68.0	3.0	30	36	10	12	12	1.1	G
TAZF107*004C□#@0^++		4	100.0	4.0	40	48	10	12	12	2.0	F
TAZH107*004C□#@0^++	CWR09C^156*+□	4	100.0	4.0	40	48	10	12	12	0.9	H
TAZG157*004C□#@0^++		4	150.0	6.0	60	72	10	12	12	1.0	G
TAZA155*006C□#@0^++	CWR09D^155*+□	6	1.5	1.0	10	12	6	8	8	8.0	A
TAZA335*006C□#@0^++		6	3.3	1.0	10	12	6	8	8	12.0	A
TAZB335*006C□#@0^++	CWR09D^335*+□	6	3.3	1.0	10	12	6	8	8	8.0	B
TAZB685*006C□#@0^++		6	6.8	1.0	10	12	6	8	8	8.0	B
TAZD685*006C□#@0^++	CWR09D^685*+□	6	6.8	1.0	10	12	6	8	8	4.5	D
TAZE106*006C□#@0^++	CWR09D^106*+□	6	10.0	1.0	10	12	8	10	12	3.5	E
TAZD156*006C□#@0^++		6	15.0	1.0	10	12	8	10	12	5.0	D
TAZE226*006C□#@0^++		6	22.0	2.0	20	24	8	10	12	3.5	E
TAZF226*006C□#@0^++	CWR09D^226*+□	6	22.0	2.0	20	24	8	10	12	2.2	F
TAZG476*006C□#@0^++	CWR09D^476*+□	6	47.0	3.0	30	36	10	12	12	1.1	G
TAZF686*006C□#@0^++		6	68.0	4.0	40	48	10	12	12	1.5	F
TAZH686*006C□#@0^++	CWR09D^686*+□	6	68.0	4.0	40	48	10	12	12	0.9	H
TAZG107*006C□#@0^++		6	100.0	6.0	60	72	10	12	12	1.1	G
TAZG107*006L□#@0^++		6	100.0	6.0	60	72	10	12	12	0.150	G
TAZH227*006C□#@0^++		6	220.0	10.0	100	120	10	12	12	0.9	H
TAZH227*006L□#@0^++		6	220.0	10.0	100	120	10	12	12	0.100	H

Following the voltage code, C designates Standard, L designates Low ESR Ratings

### Part Number Designations

**^ = Termination Finish:**<sup>1</sup>

**For TAZ p/n:**

9 = Gold Plated

8 = Hot Solder Dipped

0 = Solder Fused

**For CWR p/n:**

B = Gold Plated

C = Hot Solder Dipped

K = Solder Fused

**# = Inspection Level:**

S = Std. Conformance

L = Optional Group A

**For CWR p/n:**

M = Military

Conformance per

MIL-PRF-55365

**\* = Tolerance:**

M = ±20%

K = ±10%

J = ±5% (Special  
order only)

**@ = Failure Rate Level:**

Weibull: B = 0.1%/1000 Hrs.

(90% C = 0.01%/1000 Hrs.

conf.)

Comm: Z = Non ER

**+ = Surge Option:**

**For TAZ p/n:**

00 = None

23 = 10 cycles, +25°C

24 = 10 cycles,

-55°C & +85°C

**For CWR p/n:**

A = 10 cycles, +25°C

B = 10 cycles,

-55°C & +85°C

**□ = Packaging:**

**For TAZ p/n:**

B = Bulk

R = 7" T&R

S = 13" T&R

**For CWR p/n:**

Bulk = Standard

\TR = 7" T&R

\TR13 = 13" T&R

\W = Waffle

# Surface Mount Military



## CWR09 - MIL-PRF-55365/4 and TAZ COTS-Plus

AVX Part Number	OPL Part Number (for reference only)	DC rated voltage (85°C) (volts)	Cap (nom) µF	DC Leakage (max)			Dissipation Factor (max)			ESR (max) 100 kHz +25°C (Ohms)	Case Size
				+25°C (µA)	+85°C (µA)	+125°C (µA)	+25°C (%)	+85/125°C (%)	-55°C (%)		
TAZA105*010C□#@0^++	CWR09F^105*@+□	10	1.0	1.0	10	12	6	8	8	10.0	A
TAZA225*010C□#@0^++		10	2.2	1.0	10	12	6	8	8	12.0	A
TAZB225*010C□#@0^++	CWR09F^225*@+□	10	2.2	1.0	10	12	6	8	8	8.0	B
TAZB475*010C□#@0^++		10	4.7	1.0	10	12	6	8	8	8.0	B
TAZD475*010C□#@0^++	CWR09F^475*@+□	10	4.7	1.0	10	12	6	8	8	4.5	D
TAZD685*010C□#@0^++		10	6.8	1.0	10	12	6	8	8	5.0	D
TAZE685*010C□#@0^++	CWR09F^685*@+□	10	6.8	1.0	10	12	6	8	8	3.5	E
TAZD106*010C□#@0^++		10	10.0	1.0	10	12	6	8	8	4.0	D
TAZE156*010C□#@0^++		10	15.0	2.0	20	24	8	10	10	3.0	E
TAZF156*010C□#@0^++	CWR09F^156*@+□	10	15.0	2.0	20	24	8	8	10	2.5	F
TAZE226*010C□#@0^++		10	22.0	3.0	30	36	8	10	10	2.0	E
TAZG336*010C□#@0^++	CWR09F^336*@+□	10	33.0	3.0	30	36	10	12	12	1.1	G
TAZF476*010C□#@0^++		10	47.0	4.0	40	48	10	12	12	1.5	F
TAZH476*010C□#@0^++	CWR09F^476*@+□	10	47.0	5.0	50	60	10	12	12	0.9	H
TAZG686*010C□#@0^++		10	68.0	6.0	60	72	10	12	12	1.1	G
TAZG686*010L□#@0^++		10	68.0	6.0	60	72	10	12	12	0.200	G
TAZH107*010C□#@0^++		10	100.0	10.0	100	120	10	12	12	0.9	H
TAZH107*010L□#@0^++		10	100.0	10.0	100	120	10	12	12	0.100	H
TAZH157*010C□#@0^++		10	150.0	15.0	150	180	10	12	12	0.9	H
TAZH157*010L□#@0^++		10	150.0	15.0	150	180	10	12	12	0.100	H
TAZV477(*)010L□#@00++		10	470.0	47.0	470	940	10	12	14	0.100	V
TAZA684*015C□#@0^++	CWR09H^684*@+□	15	0.68	1.0	10	12	6	8	8	12.0	A
TAZA105*015C□#@0^++		15	1.0	1.0	10	12	6	8	8	15.0	A
TAZB155*015C□#@0^++	CWR09H^155*@+□	15	1.5	1.0	10	12	6	8	8	8.0	B
TAZB335*015C□#@0^++		15	3.3	1.0	10	12	6	8	8	9.0	B
TAZD335*015C□#@0^++	CWR09H^335*@+□	15	3.3	1.0	10	12	6	8	8	5.0	D
TAZD475*015C□#@0^++		15	4.7	1.0	10	12	6	8	8	6.0	D
TAZE475*015C□#@0^++	CWR09H^475*@+□	15	4.7	1.0	10	12	6	8	8	4.0	E
TAZE106*015C□#@0^++		15	10.0	2.0	20	24	6	8	8	4.0	E
TAZF106*015C□#@0^++	CWR09H^106*@+□	15	10.0	2.0	20	24	6	8	8	2.5	F
TAZF226*015C□#@0^++		15	22.0	3.0	30	36	8	10	10	3.0	F
TAZG226*015C□#@0^++	CWR09H^226*@+□	15	22.0	4.0	40	48	6	8	8	1.1	G
TAZH336*015C□#@0^++	CWR09H^336*@+□	15	33.0	5.0	50	60	8	8	10	0.9	H
TAZH686*015C□#@0^++		15	68.0	10.0	100	120	8	10	12	0.9	H
TAZH686*015L□#@0^++		15	68.0	10.0	100	120	8	10	12	0.150	H
TAZH107*015C□#@0^++		15	100.0	15.0	150	180	10	12	12	0.9	H
TAZH107*015L□#@0^++		15	100.0	15.0	150	180	10	12	12	0.125	H
TAZV227(*)016L□#@00++		16	220.0	35.2	352	704	8	10	12	0.150	V

Following the voltage code, C designates Standard, L designates Low ESR Ratings

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9 = Gold Plated

8 = Hot Solder Dipped

0 = Solder Fused

For CWR p/n:

B = Gold Plated

C = Hot Solder Dipped

K = Solder Fused

# = Inspection Level:

S = Std. Conformance

L = Optional Group A

For CWR p/n:

M = Military

Conformance per

MIL-PRF-55365

\* = Tolerance:

M = ±20%

K = ±10%

J = ±5% (Special  
order only)

@ = Failure Rate Level:

Weibull: B = 0.1%/1000 Hrs.

(90% C = 0.01%/1000 Hrs.

conf.)

Comm: Z = Non ER

+ = Surge Option:

For TAZ p/n:

00 = None

23 = 10 cycles, +25°C

24 = 10 cycles,

-55°C & +85°C

For CWR p/n:

A = 10 cycles, +25°C

B = 10 cycles,

-55°C & +85°C

□ = Packaging:

For TAZ p/n:

B = Bulk

R = 7" T&R

S = 13" T&R

For CWR p/n:

Bulk = Standard

\TR = 7" T&R

\TR13 = 13" T&R

\W = Wafer



# Surface Mount Military



## CWR09 - MIL-PRF-55365/4 and TAZ COTS-Plus

AVX Part Number	QPL Part Number (for reference only)	DC rated voltage (85°C) (volts)	Cap (nom) µF	DC Leakage (max)			Dissipation Factor (max)			ESR (max) 100 kHz +25°C (Ohms)	Case Size
				+25°C (µA)	+85°C (µA)	+125°C (µA)	+25°C (%)	+85/125°C (%)	-55°C (%)		
TAZA474*020C□#@0^++	CWR09J^474*@+□	20	0.47	1.0	10	12	6	8	8	14.0	A
TAZA684*020C□#@0^++		20	0.68	1.0	10	12	6	8	8	15.0	A
TAZB684*020C□#@0^++	CWR09J^684*@+□	20	0.68	1.0	10	12	6	8	8	10.0	B
TAZB105*020C□#@0^++	CWR09J^105*@+□	20	1.0	1.0	10	12	6	8	8	12.0	B
TAZB225*020C□#@0^++		20	2.2	1.0	10	12	6	8	8	9.0	B
TAZD225*020C□#@0^++	CWR09J^225*@+□	20	2.2	1.0	10	12	6	8	8	5.0	D
TAZD335*020C□#@0^++		20	3.3	1.0	10	12	6	8	8	6.0	D
TAZE335*020C□#@0^++	CWR09J^335*@+□	20	3.3	1.0	10	12	6	8	8	4.0	E
TAZE475*020C□#@0^++		20	4.7	1.0	10	12	6	8	8	6.0	E
TAZE685*020C□#@0^++		20	6.8	2.0	20	24	6	8	8	5.0	E
TAZF685*020C□#@0^++	CWR09J^685*@+□	20	6.8	2.0	20	24	6	8	8	2.4	F
TAZF156*020C□#@0^++		20	15.0	3.0	30	36	6	8	8	3.0	F
TAZG156*020C□#@0^++	CWR09J^156*@+□	20	15.0	3.0	30	36	6	8	8	1.1	G
TAZG226*020C□#@0^++		20	22.0	4.0	40	48	6	8	8	2.5	G
TAZG226*020L□#@0^++		20	22.0	4.0	40	48	6	8	8	0.500	G
TAZH226*020C□#@0^++	CWR09J^226*@+□	20	22.0	4.0	40	48	6	8	8	0.9	H
TAZH476*020C□#@0^++		20	47.0	10.0	100	120	8	10	10	0.9	H
TAZH476*020L□#@0^++		20	47.0	10.0	100	120	8	10	10	0.250	H
TAZV107(*)020L□#@00++		20	100.0	20.0	200	400	8	10	12	0.200	V
TAZA334*025C□#@0^++	CWR09K^334*@+□	25	0.33	1.0	10	12	6	8	8	15.0	A
TAZB684*025C□#@0^++	CWR09K^684*@+□	25	0.68	1.0	10	12	6	8	8	7.5	B
TAZB105*025C□#@0^++		25	1.0	1.0	10	12	6	8	8	10.0	B
TAZD155*025C□#@0^++	CWR09K^155*@+□	25	1.5	1.0	10	12	6	8	8	6.5	D
TAZD225*025C□#@0^++		25	2.2	1.0	10	12	6	8	8	6.0	D
TAZE225*025C□#@0^++	CWR09K^225*@+□	25	2.2	1.0	10	12	6	8	8	3.5	E
TAZE335*025C□#@0^++		25	3.3	1.0	10	12	6	8	8	4.0	E
TAZF475*025C□#@0^++	CWR09K^475*@+□	25	4.7	2.0	20	24	6	8	8	2.5	F
TAZF685*025C□#@0^++		25	6.8	2.0	20	24	6	8	8	3.0	F
TAZG685*025C□#@0^++	CWR09K^685*@+□	25	6.8	2.0	20	24	6	8	8	1.2	G
TAZG106*025C□#@0^++	CWR09K^106*@+□	25	10.0	3.0	30	36	6	8	8	1.4	G
TAZH156*025C□#@0^++	CWR09K^156*@+□	25	15.0	4.0	40	48	6	8	8	1.0	H
TAZH226*025C□#@0^++		25	22.0	6.0	60	72	6	8	8	0.9	H
TAZH226*025L□#@0^++		25	22.0	6.0	60	72	6	8	8	0.200	H
TAZV686(*)0250L□#@00++		25	68.0	17.0	170	340	8	10	12	0.150	V

Following the voltage code, C designates Standard, L designates Low ESR Ratings

### Part Number Designations

^ = Termination Finish:<sup>1</sup>

For TAZ p/n:

9 = Gold Plated  
8 = Hot Solder Dipped  
0 = Solder Fused

For CWR p/n:

B = Gold Plated  
C = Hot Solder Dipped  
K = Solder Fused

# = Inspection Level:

S = Std. Conformance  
L = Optional Group A

For CWR p/n:

M = Military  
Conformance per  
MIL-PRF-55365

\* = Tolerance:

M = ±20%  
K = ±10%  
J = ±5% (Special  
order only)

@ = Failure Rate Level:

Weibull: B = 0.1%/1000 Hrs.  
(90% C = 0.01%/1000 Hrs.  
conf.)  
Comm: Z = Non ER

+ = Surge Option:

For TAZ p/n:

00 = None  
23 = 10 cycles, +25°C  
24 = 10 cycles,  
-55°C & +85°C

For CWR p/n:

A = 10 cycles, +25°C  
B = 10 cycles,  
-55°C & +85°C

□ = Packaging:

For TAZ p/n:

B = Bulk  
R = 7" T&R  
S = 13" T&R

For CWR p/n:

Bulk = Standard  
VTR = 7" T&R  
VTR13 = 13" T&R  
W = Waffle

# Surface Mount Military



## CWR09 - MIL-PRF-55365/4 and TAZ COTS-Plus

AVX Part Number	QPL Part Number (for reference only)	DC rated voltage (85°C) (volts)	Cap (nom) µF	DC Leakage (max)			Dissipation Factor (max)			ESR (max) 100 kHz +25°C (Ohms)	Case Size
				+25°C (µA)	+85°C (µA)	+125°C (µA)	+25°C (%)	+85/125°C (%)	-55°C (%)		
TAZA224*035C□#@0^++	CWR09M^224*+□	35	0.22	1.0	10	12	6	8	8	18.0	A
TAZB474*035C□#@0^++	CWR09M^474*+□	35	0.47	1.0	10	12	6	8	8	10.0	B
TAZD105*035C□#@0^++	CWR09M^105*+□	35	1.0	1.0	10	12	6	8	8	6.5	D
TAZE155*035C□#@0^++	CWR09M^155*+□	35	1.5	1.0	10	12	6	8	8	4.5	E
TAZF335*035C□#@0^++	CWR09M^335*+□	35	3.3	1.0	10	12	6	8	8	2.5	F
TAZG475*035C□#@0^++	CWR09M^475*+□	35	4.7	2.0	20	24	6	8	8	1.5	G
TAZH685*035C□#@0^++	CWR09M^685*+□	35	6.8	3.0	30	36	6	8	8	1.3	H
TAZH106*035C□#@0^++		35	10.0	4.0	40	48	8	10	10	0.9	H
TAZH106*035L□#@0^++		35	10.0	4.0	40	48	8	10	10	0.300	H
TAZA104*050C□#@0^++	CWR09N^104*+□	50	0.10	1.0	10	12	6	8	8	22.0	A
TAZA154*050C□#@0^++	CWR09N^154*+□	50	0.15	1.0	10	12	6	8	8	17.0	A
TAZB224*050C□#@0^++	CWR09N^224*+□	50	0.22	1.0	10	12	6	8	8	14.0	B
TAZB334*050C□#@0^++	CWR09N^334*+□	50	0.33	1.0	10	12	6	8	8	12.0	B
TAZD684*050C□#@0^++	CWR09N^684*+□	50	0.68	1.0	10	12	6	8	8	7.0	D
TAZE105*050C□#@0^++	CWR09N^105*+□	50	1.0	1.0	10	12	6	8	8	6.0	E
TAZF155*050C□#@0^++	CWR09N^155*+□	50	1.5	1.0	10	12	6	8	8	4.0	F
TAZF225*050C□#@0^++	CWR09N^225*+□	50	2.2	2.0	20	24	6	8	8	2.5	F
TAZG335*050C□#@0^++	CWR09N^335*+□	50	3.3	2.0	20	24	6	8	8	2.0	G
TAZH475*050C□#@0^++	CWR09N^475*+□	50	4.7	3.0	30	36	6	8	8	1.5	H

Following the voltage code, C designates Standard, L designates Low ESR Ratings

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**For CWR p/n:**  
 M = Military  
 Conformance per  
 MIL-PRF-55365

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 M = ±20%  
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 (90% C = 0.01%/1000 Hrs.  
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 Comm: Z = Non ER

**+ = Surge Option:**  
**For TAZ p/n:**  
 00 = None  
 23 = 10 cycles, +25°C  
 24 = 10 cycles,  
 -55°C & +85°C  
**For CWR p/n:**  
 A = 10 cycles, +25°C  
 B = 10 cycles,  
 -55°C & +85°C

**□ = Packaging:**  
**For TAZ p/n:**  
 B = Bulk  
 R = 7" T&R  
 S = 13" T&R  
**For CWR p/n:**  
 Bulk = Standard  
 \TR = 7" T&R  
 \TR13 = 13" T&R  
 \W = Waffle

# TAZ, CWR09, CWR11 Series



## Tape and Reel Packaging

Solid Tantalum Chip TAZ Tape and reel packaging for automatic component placement.

Please enter required Suffix on order. Bulk packaging is standard.

### TAZ TAPING SUFFIX TABLE

Case Size reference	Tape width mm	P mm	7" (180mm) reel		13" reel (330mm) reel	
			Suffix	Qty.	Suffix	Qty.
A	8	4	R	2500	S	9000
B	12	4	R	2500	S	9000
D	12	4	R	2500	S	8000
E	12	4	R	2500	S	8000
F	12	8	R	1000	S	3000
G	12	8	R	500	S	2500
H	12	8	R	500	S	2500

Total Tape Thickness — K max	
Case size reference	Millimeters (Inches) DIM
A	2.0 (0.079)
B	4.0 (0.157)
D	4.0 (0.157)
E	4.0 (0.157)
F	4.0 (0.157)
G	4.0 (0.157)
H	4.0 (0.157)

Code	8mm Tape		12mm Tape	
P*	4±0.1 or 8±0.1	(0.157±0.004) (0.315±0.004)	4±0.1 or 8±0.1	(0.157±0.004) (0.315±0.004)
G	0.75 min	(0.03 min)	0.75 min	(0.03 min)
F	3.5±0.05	(0.138±0.002)	5.5±0.05	(0.22±0.002)
E	1.75±0.1	(0.069±0.004)	1.75±0.1	(0.069±0.004)
W	8±0.3	(0.315±0.012)	12±0.3	(0.472±0.012)
P <sub>2</sub>	2±0.05	(0.079±0.002)	2±0.05	(0.079±0.002)
P <sub>0</sub>	4±0.1	(0.157±0.004)	4±0.1	(0.157±0.004)
D	1.5±0.1 -0	(0.059±0.004) (-0)	1.5±0.1 -0	(0.059±0.004) (-0)
D <sub>1</sub>	1.0 min	(0.039 min)	1.5 min	(0.059 min)

\*See taping suffix tables for actual P dimension (component pitch).

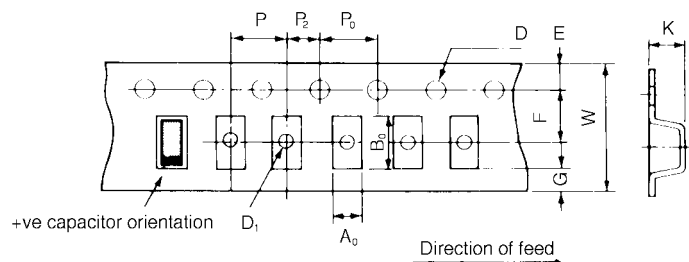
### TAPE SPECIFICATION

Tape dimensions comply to EIA RS 481 A

Dimensions A<sub>0</sub> and B<sub>0</sub> of the pocket and the tape thickness, K, are dependent on the component size.

Tape materials do not affect component solderability during storage.

Carrier Tape Thickness <0.4mm

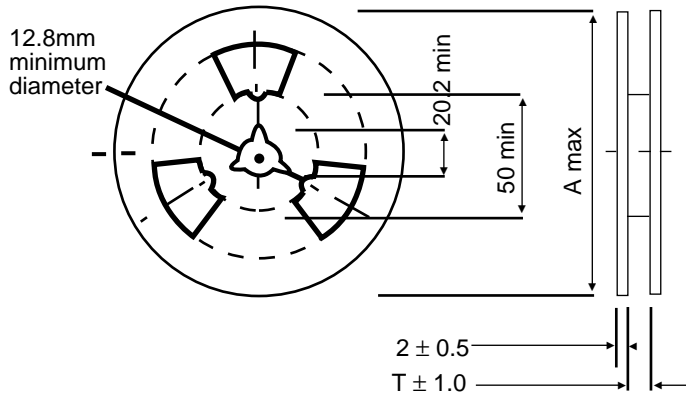


# TAZ, CWR09, CWR11 Series



## Tape and Reel Packaging

### PLASTIC TAPE REEL DIMENSIONS



#### Standard Dimensions mm

T: 9.5mm (8mm tape)  
13.0mm (12mm tape)

A: See page 47

#### Cover Tape Dimensions

Thickness:  $75 \pm 25 \mu$

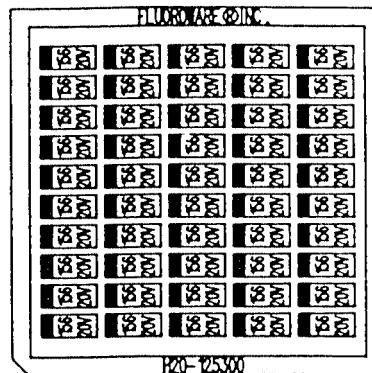
Width of tape:

5.5mm + 0.2mm (8mm tape)

9.5mm + 0.2mm (12mm tape)

**Waffle Packaging** - 2" x 2" hard plastic waffle trays. To order Waffle packaging use a "W" in part numbers packaging position.

Case Size	Maximum Quantity Per Waffle
TAZ A	160
TAZ B	112
TAZ D	88
TAZ E	60
TAZ F	48
TAZ G	50
TAZ H	28
CWR11 A	96
CWR11 B	72
CWR11 C	54
CWR11 D	28



**NOTE:** Orientation of parts in waffle packs varies by case size.