

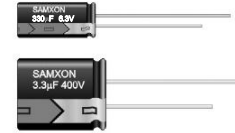
GF Series

SAMXON®

+105°C, High Ripple Current(高紋波), Low Impedance(低阻抗品)

FEATURES

1. Low impedance for high frequency
2. Life time: 2000~4000 hours at 105°C



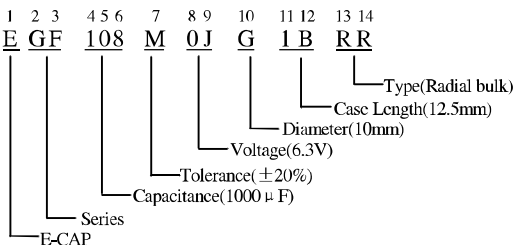
SPECIFICATIONS

Item	Performance Characteristics								
Operating Temperature Range	-40 to +105°C								
Rated Working Voltage Range	6.3 to 100V								
Nominal Capacitance Range	2.2 to 4700µF								
Capacitance Tolerance	±20% (120Hz, +20°C)								
Leakage Current	$I \leq 0.01CV$ or $3(\mu A)$ whichever is greater measured after 2 minutes application of rated working voltage at 20°C $CV \leq 1000 : I = 0.1CV + 40(\mu A)$ max. $CV > 1000 : I = 0.04CV + 100(\mu A)$ max. after 2 minute application of rated working voltage at +20°C								
tan δ (120Hz, +20°C)	Working Voltage (V)	6.3 10 16 25 35 50 63 100							
	tan δ (max.)	0.22 0.19 0.16 0.14 0.12 0.10 0.09 0.08							
For capacitance value > 1000µF, add 0.02 per another 1000µF									
Low Temperature Characteristics	Impedance ratio max. at 120Hz								
	Working Voltage (V)	6.3	10	16	25	35	50	63	100
	Z-25°C / Z+20°C	4	3	2	2	2	2	2	2
	Z-40°C / Z+20°C	8	6	4	3	3	3	3	3
High Temperature Loading	Test conditions				Post test requirements at +20°C				
	Duration :	φD	5 ~ 6.3	8 ~ 10	12.5	Leakage current : ≤ Initial specified value			
	Load life		2000h	3000h	4000h	Cap. change : within ±25% of initial measured value			
Ambient temp. :		+105°C		tan δ : ≤ 150% of initial specified value					
Applied voltage :		Rated DC working voltage with rated ripple current							
Shelf Life	Test conditions				Post test requirements at +20°C				
	Duration :	1000 hours			Same limits for high temperature loading.				
	Ambient temp. :	+105°C							
	Applied voltage :	(None)							
Others	JIS C - 5101 (IEC 60384)								

CASE SIZE TABLE

	φD	5	6.3	8(L < 20)	8(L ≥ 20)	10	12.5		
	F	2.0	2.5	3.5		5.0	5.0		
	φd	0.5		0.6		0.6			
	α	(L < 20) 1.5				(L ≥ 20) 2.0			
	β	(D < 20) 0.5				(D ≥ 20) 1.0			
	Unit : mm								

PART NUMBER SYSTEM(EXAMPLE:6.3V1000µF)



GF

Miniature Aluminum Electrolytic Capacitors

+105°C, High Ripple Current(高紋波), Low Impedance(低阻抗品)

STANDARD RATINGS

Voltage(Code)		6.3V(0J)			10V(1A)			16V(1C)		
Cap.(μF)	Code	Case Size	Impedance	Ripple Current	Case Size	Impedance	Ripple Current	Case Size	Impedance	Ripple Current
100	107							6.3x11	0.220	340
120	127							6.3x11	0.220	340
150	157				6.3x11	0.220	340	6.3x11	0.220	340
								8x12	0.130	640
180	187	6.3x11	0.220	340	6.3x11	0.220	340	6.3x11	0.220	340
220	227	6.3x11	0.220	340	6.3x11	0.220	340	6.3x11	0.220	340
270	277	6.3x11	0.220	340	6.3x11	0.220	340	8x12	0.130	640
330	337	6.3x11	0.220	340	6.3x11	0.220	340	8x12	0.130	640
		8x12	0.130	640	8x12	0.130	640			
390	397	8x12	0.130	640	8x12	0.130	640	8x12	0.130	640
470	477	8x12	0.130	640	8x12	0.130	640	8x12	0.130	640
560	567	8x12	0.130	640	8x12	0.130	640	10x12.5	0.080	865
680	687	8x12	0.130	640	8x12	0.130	640	8x16	0.087	840
820	827	8x12	0.130	640	10x12.5	0.080	865	10x16	0.060	1210
		10x12.5	0.080	865						
1000	108	8x12	0.130	640	8x16	0.087	840	10x16	0.060	1210
		10x12.5	0.080	865	10x16	0.060	1210			
1200	128	8x16	0.087	840	10x20	0.046	1400	10x20	0.046	1400
		10x12.5	0.080	865						
1500	158	8x20	0.069	1050	10x20	0.046	1400	10x20	0.046	1400
		10x16	0.060	1210						
1800	188	10x20	0.046	1400	10x20	0.046	1400	10x25	0.042	1650
2200	228	10x20	0.046	1400	10x20	0.046	1400	12.5x20	0.035	1900
2700	278	10x25	0.042	1650	10x25	0.042	1650	12.5x25	0.030	2124
		12.5x20	0.035	1900	12.5x20	0.035	1900			
3300	338	10x25	0.042	1650	12.5x25	0.030	2124			
		12.5x20	0.035	1900						
3900	398	12.5x20	0.035	1900						
4700	478	12.5x25	0.030	2124						

Maximum Allowable Ripple Current(mA rms)at 105°C 100kHz

Case Size ΦDxL(mm)

Maximum Impedance(Ω) at 20°C 100kHz

Specifications are subject to change without notice. Should a safety or technical concern arise regarding the product, please be sure to contact our sales offices or agents immediately.

+105°C, High Ripple Current(高紋波), Low Impedance(低阻抗品)

STANDARD RATINGS

Voltage(Code)		25V(1E)			35V(1V)			50V(1H)		
Cap.(μF)	Code	Case Size	Impedance	Ripple Current	Case Size	Impedance	Ripple Current	Case Size	Impedance	Ripple Current
33	336							6.3x11	0.300	295
39	396							6.3x11	0.300	295
47	476				6.3x11	0.220	340	6.3x11	0.300	295
56	566				6.3x11	0.220	340	8x12	0.170	555
68	686				6.3x11	0.220	340	8x12	0.170	555
82	826	6.3x11	0.220	340	8x12	0.130	640	8x12	0.170	555
100	107	6.3x11	0.220	340	8x12	0.130	640	10x12.5	0.120	760
120	127	8x12	0.130	640	8x12	0.130	640	8x16	0.120	730
								10x12.5	0.120	760
150	157	8x12	0.130	640	8x12	0.130	640	10x16	0.084	1050
180	187	8x12	0.130	640	10x12.5	0.080	865	8x20	0.091	910
								10x16	0.084	1050
220	227	8x12	0.130	640	8x12	0.130	640	10x16	0.084	1050
					8x16	0.087	840			
					10x12.5	0.080	865			
270	277	8x12	0.130	640	10x16	0.060	1210	10x25	0.055	1440
		10x12.5	0.080	865						
330	337	8x12	0.130	640	8x20	0.069	1050	12.5x20	0.045	1660
		10x12.5	0.080	865	10x12.5	0.080	865			
			0.080	865	10x16	0.060	1210			
390	397	10x12.5	0.080	865	10x16	0.060	1210	12.5x20	0.045	1660
470	477	8x16	0.087	840	10x16	0.060	1210	12.5x25	0.034	1950
		10x12.5	0.080	865						
560	567	10x16	0.060	1210	10x20	0.046	1400	12.5x25	0.034	1950
680	687	10x16	0.060	1210	10x20	0.046	1400			
820	827	10x20	0.046	1400	10x25	0.042	1650			
					12.5x20	0.035	1900			
					12.5x20	0.035	1900			
1000	108	10x20	0.046	1400	12.5x25	0.030	2124			
1200	128	10x20	0.046	1400						
1500	158	10x25	0.042	1650						
		12.5x20	0.035	1900						
1800	188	12.5x25	0.030	2124						
2200	228	12.5x25	0.030	2124						

Maximum Allowable Ripple Current(mA rms)at 105°C 100kHz

Case Size ΦDxL(mm)

Maximum Impedance(Ω) at 20°C 100kHz

GF

Miniature Aluminum Electrolytic Capacitors

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GF Series

SAMXON®

+105°C, High Ripple Current(高紋波), Low Impedance(低阻抗品)

STANDARD RATINGS

Voltage(Code)		63V(1J)			100V(2A)					
Cap.(μF)	Code	Case Size	Impedance	Ripple Current	Case Size	Impedance	Ripple Current			
15	156				6.3x11	0.960	115			
22	226	6.3x11	0.960	115						
27	276	6.3x11	0.960	115	8x12	0.504	232			
33	336	6.3x11	0.960	115						
39	396	8x12	0.504	232	8x16	0.360	300			
47	476	8x12	0.504	232	10x12.5	0.344	314			
56	566	8x12	0.504	232	8x20	0.264	362			
68	686	8x12	0.504	232	10x16	0.248	357			
82	826	10x12.5	0.344	314	10x20	0.168	466			
100	107	8x16	0.360	300	10x20	0.168	466			
		10x12.5	0.344	314						
120	127	10x16	0.248	357	12.5x20	0.128	690			
150	157	8x20	0.264	362						
180	187	10x20	0.168	466	12.5x25	0.096	922			
220	227	10x20	0.168	466	12.5x25	0.096	922			
270	277	12.5x20	0.128	690						
330	337	12.5x20	0.128	690						
390	397	12.5x25	0.096	922						

Maximum Allowable Ripple Current(mA rms)at 105°C 100kHz

Case Size ΦDxL(mm)

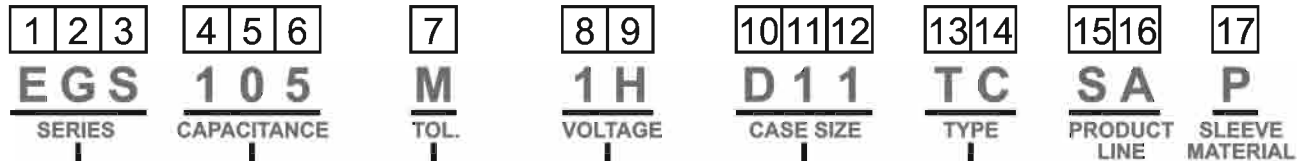
Maximum Impedance(Ω) at 20°C 100kHz

RIPPLE CURRENT MULTIPLIER

Frequency Coefficient						
Cap(μF)	Coefficient	Freq.(Hz)	120	1k	10k	100k
~180			0.40	0.75	0.90	1.00
220 ~ 560			0.50	0.85	0.94	1.00
680 ~ 1800			0.60	0.87	0.95	1.00
2200 ~ 3900			0.75	0.90	0.95	1.00
4700			0.85	0.95	0.98	1.00

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Part Number System(產品編碼)



Series	Cap(MFD)	Code	Tolerance (%)	Code	Voltage (W.V.)	Code	Case Size	Feature	Code	Product Line	Sleeve Material	Code
ESM	0.1	104	±5	J	4	0G	Eg. 5mmx11mm D 11 Diameter Code Case Length Diameter(φ) Code	Radial bulk	RR	Basically, all our products are complied with RoHS directive, if the customer ask for better differentiation of our RoHS products for their internal use, the 15th digital can be changed to "R" upon request.	PET	P
FTM					6.3	0J		3 B	Ammo Taping			
EKS	0.22	224	±10	K	10	1A	4 C				2.5mm Pitch	TU
EFS					0.47	474	+10 -20	C	16			1C
EGR	1	105	±15	L					20		1D	6.3 E
EGS					2.2	225	±30	N	25		1E	8 F
EKM	3.3	335	±20	M					35		1V	10 G
EKG					4.7	475	+100 0	P	40		1G	12.5 I
EZM	10	106	±30	N					42		1M	16 K
EZF					22	226	+20 0	R	50		1H	18 L
ERF	33	336	+75 -10	U					57		1L	20 M
ERL					47	476	+50 -10	T	63		1J	22 N
ERR	100	107	+20 0	R					71		1S	25 O
ERT					125	1B7	+75 -10	U	75		1T	30 P
ERD	220	227	+20 -10	V					80		1K	35 Q
EBD					330	337	+80 -20	Z	85		1R	50 S
ELM	470	477	+50 -10	T					90		1X	63 T
ELF					2200	228	+20 -10	V	90	1X	76 U	
ELS	4700	477	+75 -10	U					90	1X	90 X	
ELZ					10000	10T	+100 -10	W	90	1X	Len. (mm) Code	
ELK	15000	15T	+20 -10	V					90	1X	5 05	
ELL					22000	22T	+50 -10	T	90	1X	5.4 54	
ELT	33000	33T	+75 -10	U					90	1X	7 07	
ELN					47000	47T	+20 -10	V	90	1X	10.2 T2	
EFM	100000	10T	+50 -20	S					90	1X	11 11	
EFS					150000	15T	+80 -20	Z	90	1X	12.5 1B	
EFA	220000	22T	+20 -10	V					90	1X	20 20	
EFN					330000	33T	+75 -10	U	90	1X	25 25	
ENM	470000	47T	+50 -10	T					90	1X	30 30	
ENS					1000000	10M	+20 -10	V	90	1X	35 35	
ENQ	1500000	15M	+50 -20	S					90	1X	50 50	
ENP					2200000	22M	+75 -10	U	90	1X	80 80	
ENH	3300000	33M	+20 -10	V					90	1X	100 1L	
EBP					4700000	47M	+50 -20	S	90	1X	105 1K	
EBH	10000000	10M	+75 -10	U					90	1X	110 1M	
EPF					15000000	15M	+20 -10	V	90	1X	120 1N	
EPS	22000000	22M	+50 -20	S					90	1X	130 1P	
ELP					33000000	33M	+75 -10	U	90	1X	140 1Q	
EAP	47000000	47M	+20 -10	V					90	1X	145 1D	
EHP					100000000	10M	+50 -20	S	90	1X	150 1R	
EKP	150000000	15M	+75 -10	U					90	1X	160 1S	
EEP					220000000	22M	+20 -10	V	90	1X	170 1T	
EFP	330000000	33M	+50 -20	S					90	1X	180 1U	
ESP					470000000	47M	+75 -10	U	90	1X	190 1V	
EWR	1000000000	10M	+20 -10	V					90	1X	200 2L	
EWT					1500000000	15M	+50 -20	S	90	1X	210 2M	
EWX	2200000000	22M	+75 -10	U					90	1X	220 2N	
EWY					3300000000	33M	+20 -10	V	90	1X	250 2R	
EWZ	4700000000	47M	+50 -20	S					90	1X	270 2T	
EVH					10000000000	10M	+75 -10	U	90	1X		
VSS	15000000000	15M	+20 -10	V					90	1X		
VNS					22000000000	22M	+50 -20	S	90	1X		
VKS	33000000000	33M	+75 -10	U					90	1X		
VKM					47000000000	47M	+20 -10	V	90	1X		
VNH	100000000000	10M	+50 -20	S					90	1X		
VZS					150000000000	15M	+75 -10	U	90	1X		
VRF	220000000000	22M	+20 -10	V					90	1X		

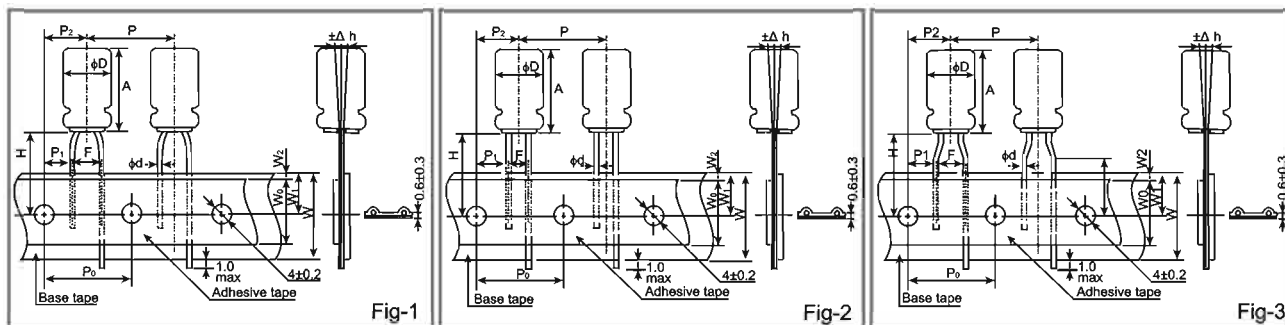
Index

Miniature

Large Can

V-Chip

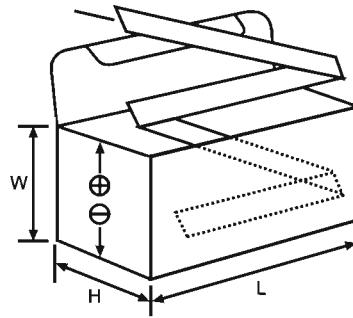
Tapping Specifications(編帶產品規格)



SPECIFICATIONS

Item		Dimension (mm)													TOL.
Reference figure		Fig 1		Fig 2						Fig 3					
Diameter	D	4 ~ 5	5	6.3	8	10	12.5	16, 18	3	4.5, 6.3	5, 6.3	8			
Height	A	5 ~ 7	9 ~ 15	5 ~ 7	9 ~ 15	11 ~ 20	9 ~ 21	15 ~ 35	15 ~ 40	5	5 ~ 7	9 ~ 15	5 ~ 9	11 ~ 20	
Lead Diameter	d	0.45	0.5	0.45	0.5	0.5	0.6	0.6	0.8	0.4	0.45	0.5	0.45	0.5	±0.05
Component Spacing	P	12.7		12.7	12.7	12.7	12.7	15	30	12.7	12.7		12.7		±1.0
Pitch of sprocket holes	P ₀	12.7		12.7	12.7	12.7	12.7	15	15	12.7	12.7		12.7		±0.2
Distance between centres of component leads	F	2.5		2.5	3.5	5.0	5.0	7.5		2.5	2.5		5.0		+0.8 -0.2
Carrier tape width	W	18.0		18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0		18.0		±0.5
Distance between the center of upper edge of carrier tape and sprocket hole	W ₁	9.0		9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0		9.0		±0.5
Distance between the abscissa and the bottom of the components body	H	18.5		18.5	18.5	18.5	18.5	18.5	18.5	18.5	17.5	18.5	17.5	20.0	+0.75 -0.5
Distance between the abscissa and the reference plane of the components with crimped leads	H ₀	---		---	---	---	---	---	---	16.0	16.0		16.0		±0.5
Hold down tape width	W ₀	7.0		7.0	7.0	7.0	15	15		7.0	7.0		7.0		Min.
Max. lateral deviation of the component body vertical to the tape plane	Δh	0		0	0	0	0	0	0	0	0		0		±1.0
Distance between the upper edges of the carrier tape and the hold down tape	W ₂	0 ~ 3		0 ~ 3	0 ~ 3	0 ~ 3	0 ~ 3	0 ~ 3	0 ~ 3	0 ~ 3	0 ~ 3		0 ~ 3		---
Distance between center of terminal and the sprocket holes	P ₁	5.1		5.1	4.6	3.85	5.0	3.75		5.1	5.1		3.85		±0.5
Distance between center of the component and the sprocket holes	P ₂	6.35		6.35	6.35	6.35	7.5	7.5		6.35	6.35		6.35		±1.0

Packing Specifications(包裝規格)



PACKING QUANTITY (TAPPING TYPE)

φD x L (mm)	L (mm)	W (mm)	H (mm)	Inner Box Quantity	Outer Box Quantity
3 x 5	330	229	51	3000	30000
4 x 5~7	330	229	51	2500	25000
5 x 5~11	330	229	51	2000	20000
6.3 x 5~12	330	229	51	1500	15000
8 x 5~12	330	229	51	1000	10000
8 x 14~20	330	229	64	1000	8000
10 x 12.5	330	191	51	500	5000
10 x 16	330	191	56	500	5000
10 x 20~25	330	191	64	500	4000
10 x 30	330	191	69	500	4000
12.5 x 20	325	267	58	500	2000
12.5 x 25	325	270	63	500	2000
12.5 x 35	325	270	74	500	2000
16 x 25	315	221	63	250	1000
16 x 35	315	221	76	250	1500
18 x 20~25	343	275	63	250	1000
18 x 30~35	343	275	73	250	500
18 x 40	343	275	78	250	500

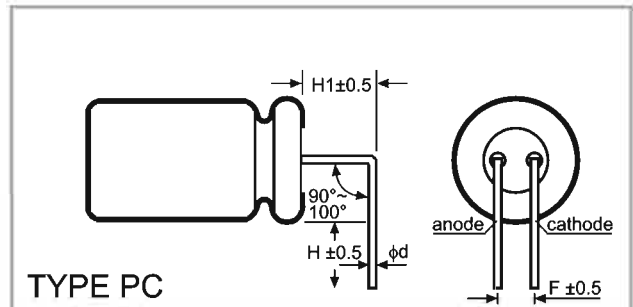
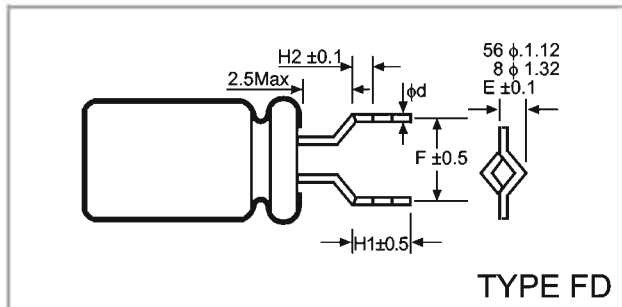
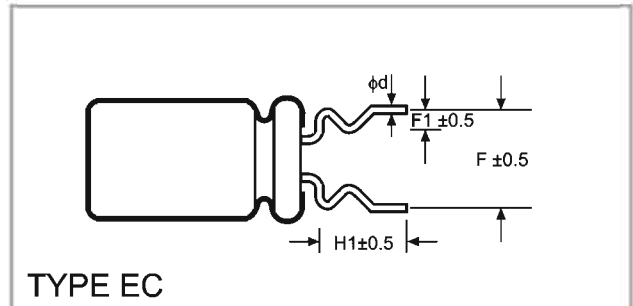
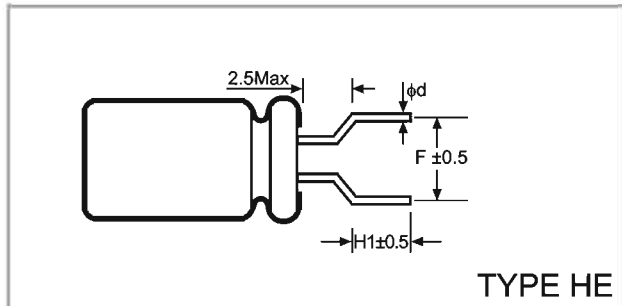
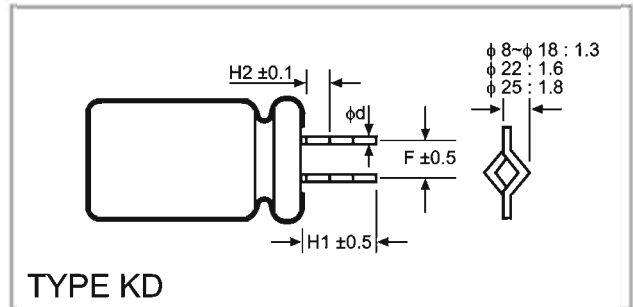
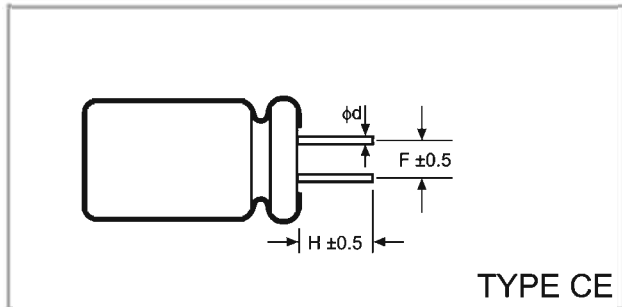
PACKING QUANTITY (BULK TYPE)

Long Lead Wire Product			
φD x L (mm)	Plastic Bag Quantity	Inner Box Quantity	Outer Box Quantity
3 x 5	2000 [‡]	24000	96000
4 x 5~7	1000 [‡]	16000	64000
5 x 5~7	1000 [‡]	14000	56000
5 x 11	1000 [‡]	10000	40000
6.3 x 5~7	1000 [‡]	10000	40000
6.3 x 11	1000 [‡]	8000	32000
8 x 5	1000 [‡]	10000	40000
8 x 7~9, 6.3 x 15	500 [‡]	6000	24000
8 x 12	500 [‡]	5000	20000
10 x 12.5	500 [‡]	3000	12000
8 x 20	250 [‡]	2500	10000
10 x 15~17	200	2400	9600
10 x 18~26	250	2000	8000
10 x 25	200	1600	6400
10 x 30	150	1200	4800
10 x 35	100	1000	2000
12.5 x 20	200	1200	2400
12.5 x 25	100	1000	2000
12.5 x 30	100	600	1200
16 x 20~30	----	200	800
16 x 32~40	----	200	600
18 x 15~30	----	150	600
18 x 35~50	----	150	450

PACKING QUANTITY (SNAP-IN)

Snap-in Terminal Product					
φD x L (mm)	Inner Box Quantity	Outer Box Quantity	φD x L (mm)	Inner Box Quantity	Outer Box Quantity
22 x 20~40	100	400	30 x 20~40	100	400
22 x 45~60	100	300	30 x 45~60	100	300
25 x 20~40	100	400	35 x 20~40	100	400
25 x 45~60	100	300	35 x 45~60	100	300

Lead Forming Specification(成型產品規格)



SHAPE CODE	φD	4	5	6.3	8(L > 5mm)	10	13	16	18
CE	F	1.5	2.0	2.5	3.5	5.0	5.0	7.5	7.5
	H	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
	φd ± 0.05	0.45	0.5	0.5	0.5	0.6	0.6	0.8	0.8
HE	F	5.0	5.0	5.0	5.0	---	---	---	---
	H1	5.0	5.0	5.0	5.0	---	---	---	---
	φd ± 0.05	0.45	0.5	0.5	0.5	---	---	---	---
FD	F	5.0	5.0	5.0	5.0	---	---	---	---
	H1	4.5	4.5	4.5	4.5	---	---	---	---
	H2	2.0	2.0	2.0	2.0	---	---	---	---
	φd ± 0.05	0.45	0.5	0.5	0.5	---	---	---	---
	E	1.12	1.12	1.12	1.30	---	---	---	---
KD	F	---	---	---	---	5.0	5.0	7.5	7.5
	H1	---	---	---	---	4.5	4.5	4.5	4.5
	H2	---	---	---	---	2.0	2.0	2.0	2.0
	φd ± 0.05	---	---	---	---	0.6	0.6	0.8	0.8
	E	---	---	---	---	1.32	1.32	1.32	1.32
EC	F	5.0	5.0	5.0	5.0	---	---	---	---
	F1	1.2	1.2	1.2	1.2	---	---	---	---
	H1	4.0	4.0	4.0	4.0	---	---	---	---
	H2	1.8	1.8	1.8	1.8	---	---	---	---
	φd ± 0.05	0.45	0.5	0.5	0.5	---	---	---	---
PC	F	---	2.0	2.5	3.5	5.0	5.0	7.5	7.5
	H	---	4.0	4.0	4.0	4.0	4.0	4.0	4.0
	H1	---	3.0	3.0	3.0	3.0	3.0	3.0	3.0
	φd ± 0.05	---	0.5	0.5	0.5	0.6	0.6	0.8	0.8