



- Downsized and Longer life from current KXG series
- Endurance with ripple current : 8,000 to 12,000 hours at 105°C
- Rated voltage range: 160 to 500V, Capacitance range: 6.8 to 680μF
- For electronic ballast circuits and other long life applications
- Non solvent resistant type
- RoHS2 Compliant
- AEC-Q200 compliant : Please contact Chemi-Con for more details, test data, information.



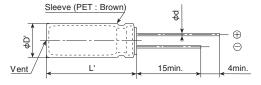


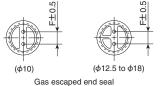
#### **◆**SPECIFICATIONS

Items	Characteristics							
Category Temperature Range	-40 to +105°C (160 to 450V <sub>dc</sub> ) -25 to +105°C (500V <sub>dc</sub> )							
Rated Voltage Range	160 to 500V <sub>dc</sub>							
Capacitance Tolerance	±20% (M)						(at 20	0°C, 120Hz)
Leakage Current		After 1 minute		After 5 minu	ites			
	CV≦1000	I=0.1CV+40		I=0.03CV+1	5			
	CV>1000	I=0.04CV+100		I=0.02CV+2	15			
	Where, I: Max. leakage of	current (μA), C : Nom	inal ca	pacitance (μF	), V : Rate	ed voltage	e (V)	(at 20℃)
Dissipation Factor	Rated voltage (Vdc)	160 to 250V	35	0 to 500V				
(tan δ)	tan δ (Max.)	0.20		0.24			(at 20	0℃, 120Hz)
Low Temperature	Rated voltage (Vdc)	160 to 250V	3	50, 400V	420 to	to 500V		
Characteristics	Z(−25°C)/Z(+20°C)	3		5	6	3		
(Max. Impedance Ratio)	Z(−40°C)/Z(+20°C)	6		6	-	_		(at 120Hz)
Endurance	The following specification ripple current is applied(the current is applied(the current is applied).						°C after subjected to DC voltage wi	th the rated
	Rated voltage (V <sub>dc</sub> )		) to 45		u ronago,	101 1110 0	500V	
	Time	16L to 20L : 10,000hc	urs. 25	L to 50L : 12.00	Ohours Φ	10 : 8.00	Ohours, φ12.5 to φ18 : 10.000hours	
	Capacitance change	≦±20% of the init						
	D.F. (tan $\delta$ )	≦200% of the initial specified value ≦The initial specified value						
	Leakage current							
Shelf Life		ns shall be satisfied when the capacitors are restored to 20°C after exposing them for 1,000 hours at 105°C without ne measurement, the capacitor shall be preconditioned by applying voltage according to Item 4.1 of JIS C 5101-4.						
	Capacitance change ≤±20% of the initial value							
	D.F. (tan $\delta$ )	≦200% of the initia	al spec	ified value				
	Leakage current	≦500% of the initia	al spec	ified value				

### **◆DIMENSIONS** [mm]

#### ●Terminal Code: E





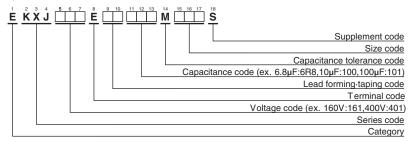
 φD
 10
 12.5
 14.5
 16
 18

 φd
 0.6
 0.6
 0.8
 0.8
 0.8

 F
 5.0
 5.0
 7.5
 7.5
 7.5

 φD'
 ΦD+0.5max.
 L+1.5max.

#### **◆PART NUMBERING SYSTEM**



Please refer to "Product code guide (radial lead type)"





## **STANDARD RATINGS**

189   10 × 16	WV (V <sub>dc</sub> )	Cap (µF)	Case size φD×L(mm)	tan δ	Rated ripple current (mArms/105°C, 120Hz)	Part No.	WV (V <sub>dc</sub> )	Cap (µF)	Case size φD×L(mm)	tan δ	Rated ripple current (mArms/105°C, 120Hz)	Part No.
182   10 x 25				-								
180				-								
100												
120												
100   14.5 × 20   0.20   0.75   EXCUTE   EXTINUEDS   150   10 × 40   0.20   0.65   EXCUTE   EXTINUEDS   150   10 × 40   0.20   0.65   EXCUTE   EXTINUEDS   150   10 × 40   0.20   0.65   EXCUTE   EXTINUEDS   150   12 × 42   0.20   0.75   EXCUTE   EXTINUEDS   160   14.5 × 25   0.20   0.20   855   EXCUTE   EXTINUEDS   160   14.5 × 25   0.20   0.20   855   EXCUTE   EXTINUEDS   160   14.5 × 25   0.20   0.20   855   EXCUTE   EXTINUEDS   160   14.5 × 25   0.20   0.20   855   EXCUTE   EXTINUEDS   160   14.5 × 25   0.20   0.20   855   EXCUTE   EXTINUEDS   160   14.5 × 25   0.20   0.20   855   EXCUTE   EXTINUEDS   160   14.5 × 25   0.20   0.20   855   EXCUTE   EXTINUEDS   160   16.5 × 25   0.20   0.20   6.50   EXCUTE   EXTINUEDS   160   16.5 × 25   0.20   0.20   6.55   EXCUTE   EXTINUEDS   160   16.5 × 25   0.20   16.20   EXCUTE   EXTINUEDS   16.5 × 25   0.20   16.20   EXCUTE   EXTINUEDS   16.5 × 25   0.20   16.5 × 25												
150												
150												
180   10 × 50   0.20   785   EKX/HEIC□TERIMASOS   180   16 × 52 × 50   0.20   880   EKX/HEIC□TERIMASOS   180   16 × 52 × 50   0.20   880   EKX/HEIC□TERIMASOS   120   16 × 52 × 50   0.20   725   EKX/LEZIE□TERIMASOS   120   16 × 52 × 50   0.20   16 × 52 × 50   0.20   16 × 52 × 50   0.20   16 × 52 × 52 × 52 × 52 × 52 × 52 × 52 × 5				_					10×45			
180   12.5 x 30   0.20   885   ECX.IFISE   CI_181MK30S   180   16.5 x 26   0.20   885   ECX.IFISE   CI_181MK30S   180   16.5 x 26   0.20   855   ECX.IFISE   CI_181MK30S   180   16.5 x 20   0.20   855   ECX.IFISE   CI_181MK30S   180   16.5 x 20   0.20   855   ECX.IFISE   CI_181MK30S   180   16.5 x 20   0.20   855   ECX.IFISE   CI_181MK30S   180		150	12.5×25	0.20	765	EKXJ161E□□151MK25S		100	12.5×25	0.20	625	EKXJ221E□□101MK25S
180   14.5 × 25   0.20   880   ECX.HOTE   DISTMUSS   880   EX.HOTE   DISTMUSS   18.2 × 25   0.20   0.96   ECX.LOS												
180												
200 12.5 × 35 0.20 1.000 EKX.IF16 □ □ □ 221MKSS 5 220 18 × 25 0.20 950 EKX.IF16 □ □ 221MKSS 5 270 12.5 × 40 0.20 1.900 EKX.IF16 □ □ 221MKSS 5 270 12.5 × 40 0.20 1.900 EKX.IF16 □ □ 221MKSS 5 270 12.5 × 40 0.20 1.200 EKX.IF16 □ □ 221MKSS 2 270 12.5 × 40 0.20 1.200 EKX.IF16 □ □ 221MKSS 2 270 12.5 × 40 0.20 1.200 EKX.IF16 □ □ 221MKSS 2 270 12.5 × 40 0.20 1.200 EKX.IF16 □ □ 221MKSS 2 270 12.5 × 40 0.20 1.200 EKX.IF16 □ □ 221MKSS 2 270 12.5 × 40 0.20 1.200 EKX.IF16 □ □ 231MKSS 2 20 1.4 × 40 0.20 1.300 EKX.IF16 □ □ 231MKSS 2 330 16 × 31.5 0.20 1.300 EKX.IF16 □ □ 231MKSS 2 330 16 × 31.5 0.20 1.500 EKX.IF16 □ □ 231MKSS 2 330 16 × 31.5 0.20 1.500 EKX.IF16 □ □ 231MKSS 2 330 16 × 31.5 0.20 1.500 EKX.IF16 □ □ 231MKSS 2 330 16 × 31.5 0.20 1.500 EKX.IF16 □ □ 231MKSS 2 330 16 × 31.5 0.20 1.700 EKX.IF16 □ □ 231MKSS 2 330 16 × 31.5 0.20 1.700 EKX.IF16 □ □ 231MKSS 2 330 16 × 31.5 0.20 1.700 EKX.IF16 □ □ 231MKSS 2 330 16 × 31.5 0.20 1.700 EKX.IF16 □ □ 231MKSS 2 270 14 × 32.5 0.20 1.000 EKX.IF16 □ □ 231MKSS 2 270 14 × 32.5 0.20 1.000 EKX.IF16 □ □ 231MKSS 2 270 14 × 32.5 0.20 1.000 EKX.IF16 □ □ 231MKSS 2 270 14 × 32.5 0.20 1.000 EKX.IF16 □ □ 231MKSS 2 270 14 × 32.5 0.20 1.000 EKX.IF16 □ □ 231MKSS 2 270 14 × 32.5 0.20 1.000 EKX.IF16 □ □ 231MKSS 2 270 14 × 32.5 0.20 1.000 EKX.IF16 □ □ 231MKSS 2 270 14 × 32.5 0.20 1.000 EKX.IF16 □ □ 231MKSS 2 270 14 × 32.5 0.20 1.000 EKX.IF16 □ □ 231MKSS 2 270 14 × 32.5 0.20 1.000 EKX.IF16 □ □ 231MKSS 2 270 14 × 32.5 0.20 1.000 EKX.IF16 □ 1231MKSS 2 270 14 × 32.5 0.20 1.000 EKX.IF16 □ 031MKSS 2 270 14 × 32.5 0.20 1.000 EKX.IF16 □ 031MKSS 2 270 14 × 32.5 0.20 1.000 EKX.IF16 □ 031MKSS 2 270 14 × 32.5 0.20 1.000 EKX.IF16 □ 031MKSS 2 270 14 × 32.5 0.20 1.000 EKX.IF16 □ 031MKSS 2 270 14 × 32.5 0.20 1.000 EKX.IF16 □ 031MKSS 2 270 14 × 32.5 0.20 1.000 EKX.IF16 □ 031MKSS 2 270 14 × 32.5 0.20 1.000 EKX.IF16 □ 031MKSS 2 270 14 × 32.5 0.20 1.000 EKX.IF16 □ 031MKSS 2 270 14 × 32.5 0.20 1.000 EKX.IF16 □ 031MKSS 2 270 14 × 32.5 0.20 1.000 EKX.IF16 □ 031MKSS 2 270 14 × 32.5 0.20 1.000 EKX.IF16 □ 031MKSS 2 270 14 × 3												
160												
160   270   15 × 340   0.20   990   EKX,161EE   221MM20S   270   12 5 × 34   0.20   1.190   EKX,161EE   271MM4SS   270   12 5 × 34   0.20   1.700   EKX,161EE   271MM4SS   270   14 5 × 34 5   0.20   1.700   EKX,161EE   271MM9S   270   14 5 × 34 5   0.20   1.700   EKX,161EE   271MM9S   270   14 5 × 34 5   0.20   1.700   EKX,161EE   271MM9S   270   14 5 × 34 5   0.20   1.700   EKX,161EE   271MM9S   270   14 5 × 34 5   0.20   1.700   EKX,161EE   331MM40S   330   16 × 34 5   0.20   1.300   EKX,161EE   331MM40S   330   16 × 34 5   0.20   1.300   EKX,161EE   331MM8S   330   16 × 34 5   0.20   1.300   EKX,161EE   331MM8S   330   16 × 34 5   0.20   1.300   EKX,161EE   331MM8S   330   16 × 34 5   0.20   1.300   EKX,161EE   331MM8S   330   16 × 34 5   0.20   1.300   EKX,161EE   331MM8S   330   16 × 34 5   0.20   1.300   EKX,161EE   331MM8S   330   16 × 34 5   0.20   1.300   EKX,161EE   331MM8S   330   16 × 34 5   0.20   1.300   EKX,161EE   331MM8S   330   16 × 34 5   0.20   1.300   EKX,161EE   331MM8S   340												
100   270   12.5 x 40   0.20   1.190												
270				-								
270   14 S × 35   0.20	160	270					220					
230		270	14.5×31.5	0.20	1,170	EKXJ161E□□271MUN3S		180		0.20	955	EKXJ221E□□181MUN3S
330 14.5 x 40 0.20 1.395 EKXJ16 E□ 331ML40S 330 18 x 25 0.20 1.290 EKXJ16 E□ 331ML8S 330 18 x 25 0.20 1.545 EKXJ16 E□ 331ML8S 330 18 x 25 0.20 1.545 EKXJ16 E□ 331ML8S 330 18 x 25 0.20 1.545 EKXJ16 E□ 331ML8S 330 18 x 25 0.20 1.545 EKXJ16 E□ 331ML8S 330 18 x 35 0.20 1.545 EKXJ16 E□ 331ML8S 330 18 x 35 0.20 1.550 EKXJ16 E□ 331ML9S 470 18 x 40 0.20 1.735 EKXJ16 E□ 371ML9S 470 18 x 40 0.20 1.735 EKXJ16 E□ 371ML9S 470 18 x 45 0.20 1.735 EKXJ16 E□ 371ML4SS 370 18 x 35 0.20 1.600 EKXJ16 E□ 371ML4SS 370 18 x 35 0.20 3.600 EKXJ16 E□ 371ML4SS 370 18 x 35 0.20 3.600 EKXJ16 E□ 371ML4SS 370 18 x 35 0.20 3.600 EKXJ16 E□ 371ML4SS 370 18 x 35 0.20 3.600 EKXJ16 E□ 371ML4SS 370 18 x 35 0.20 3.600 EKXJ16 E□ 371ML4SS 370 18 x 35 0.20 3.600 EKXJ16 E□ 371ML4SS 370 18 x 35 0.20 3.600 EKXJ16 E□ 371ML4SS 370 18 x 35 0.20 3.600 EKXJ16 E□ 371ML4SS 370 18 x 35 0.20 3.600 EKXJ16 E□ 371ML4SS 370 18 x 35 0.20 3.600 EKXJ16 E□ 371ML4SS 370 18 x 35 0.20 3.600 EKXJ16 E□ 371												
330 16 x 31.5 0 20 1.290 EXX.JIGIE□□31MM2SS 330 14.5 x 45 0.20 1.290 EXX.JIGIE□□31MM2SS 390 14.5 x 45 0.20 1.500 EXX.JIGIE□□391MM4SS 470 14.5 x 50 0.20 1.500 EXX.JIGIE□□391MM4SS 470 16.4 x 50 0.20 1.730 EXX.JIGIE□□371MM2SS 470 16.4 x 50 0.20 1.730 EXX.JIGIE□□371MM4SS 470 18 x 35 0.20 1.500 EXX.JIGIE□□471MM4SS 560 18 x 40 0.20 1.700 EXX.JIGIE□□471MM4SS 560 18 x 40 0.20 1.920 EXX.JIGIE□□471MM4SS 560 18 x 40 0.20 1.920 EXX.JIGIE□□471MM4SS 660 18 x 40 0.20 1.920 EXX.JIGIE□□371MM4SS 660 18 x 40 0.20 1.920 EXX.JIGIE□□361MM4SS 660 18 x 45 0.20 1.920 EXX.JIGIE□□361MM4SS 660 18 x 45 0.20 2.130 EXX.JIGIE□□361MM4SS 660 18 x 45 0.20 2.130 EXX.JIGIE□□361MM4SS 660 18 x 45 0.20 2.00 20 EXX.JIGIE□□360MJ3SS 660 18 x 45 0.20 2.00 345 EXX.JIGIE□360MJ2SS 660 10 x 25 0.20 345 EXX.JIGIE□360MJ2SS 670 100 12.5 x 25 0.20 455 EXX.JIGIE□360MJ2SS 670 100 12.5 x 25 0.20 625 EXX.JIGIE□360MJ3SS 670 00 12.5 x 25 0.20 625 EXX.JIGIE□360MJ3S												
330 18 × 25 0.20 1.290 EKX_I161E□311MuSS 390 16 × 35.5 0.20 1.500 EKX_I161E□391MUFIS 470 16 × 40 0.20 1.735 EKX_I161E□391MUFIS 470 16 × 40 0.20 1.730 EKX_I161E□391MUFIS 470 18 × 31.5 0.20 1.736 EKX_I161E□31MUFIS 560 18 × 550 0.20 1.715 EKX_I161E□31MUFIS 560 18 × 550 0.20 1.715 EKX_I161E□361MUFIS 560 18 × 50 0.20 1.715 EKX_I161E□361MUFIS 560 18 × 50 0.20 1.900 EKX_I161E□360MUFIS 560 18 × 50 0.20 1.900												
390   14.5 x 45   0.20											<del>                                     </del>	
470 16 x 40 0.20 1.735 EXX.J61E□391MLP1S   470 16 x 40 0.20 1.730 EXX.J61E□371ML9S   470 18 x 31 5 0.20 1.736 EXX.J61E□371ML4SS   470 18 x 31 5 0.20 1.736 EXX.J61E□371ML4SS   470 18 x 31 5 0.20 1.736 EXX.J61E□371ML4SS   550 15 x 50 0.20 1.730 EXX.J61E□361ML5OS   550 15 x 50 0.20 1.730 EXX.J61E□361MM4SS   550 18 x 45 0.20 2.130 EXX.J61E□361MM4SS   560 18 x 45 0.20 2.00 EXX.J61E□360ML2SS   661 18 x 45 0.20 2.00 EXX.J61E□360ML2SS   662 18 x 45 0.20 2.00 EXX.J61E□360ML2SS   663 10 x 30 0.20 405 EXX.J61E□360ML2SS   564 10 x 30 0.20 520 EXX.J61E□360ML2SS   565 12 x 5 x 20 0.20 520 EXX.J61E□360ML2SS   566 12 x 5 x 20 0.20 650 EXX.J61E□360ML2SS   567 12 x 5 x 35 0.20 650 EXX.J61E□1010ML2SS   568 12 x 5 x 20 0.20 650 EXX.J61E□1010ML2SS   569 12 x 5 x 35 0.20 650 EXX.J61E□1010ML2SS   560 18 x 45 0.20 1.00 695 EXX.J61E□1010ML2SS   560 18 x 45 0.20 1.00 695 EXX.J61E□1010ML2SS   560 18 x 45 0.20 0.20 695 EXX.J61E□1010ML2SS   560 18												
470 16 × 45 0 0.20 1.735   EKXJ161 □ □ □ □ □ I I I I I S				_								
470   16 × 40   0.20   1.700   EKXJ161 □ □471ML40S   470   18 × 31   5   0.20   1.760   EKXJ161 □ □471ML40S   470   18 × 31   5   0.20   1.760   EKXJ161 □ □471MM3S   470   18 × 31   5   0.20   1.760   EKXJ161 □ □471MM3S   550   16 × 50   0.20   1.795   EKXJ161 □ □561MM40S   560   16 × 50   0.20   1.795   EKXJ161 □ □561MM40S   560   18 × 45   0.20   2.130   EKXJ161 □ □561MM40S   560   18 × 45   0.20   2.130   EKXJ161 □ □561MM40S   560   18 × 45   0.20   2.145   EKXJ161 □ □561MM40S   560   18 × 45   0.20   2.145   EKXJ161 □ □561MM40S   560   10 × 25   0.20   0.20   2.00   EKXJ221 □ □371MM10S   470   10 × 20   0.20   2.00   EKXJ221 □ □371MM2DS   560   10 × 25   0.20   345   EKXJ201 □ □470MJ20S   560   10 × 25   0.20   345   EKXJ201 □ □470MJ20S   560   10 × 25   0.20   345   EKXJ201 □ □470MJ30S   520   EKXJ201 □ □400MJ20S   520   EKXJ201 □ 0400MJ20S   520   EKX												
470				_								
470		470	16×45	0.20	1,730	EKXJ161E□□471ML45S		330	16×40	0.20	1,425	EKXJ221E□□331ML40S
\$60												
F800												
680												
680												
27												
47				_								
68				0.20	290			33	10×20			
82   12.5 × 20   0.20   520   EKX,						EKXJ201E□□560MJ25S					+	EKXJ251E□□470MJ25S
100												
100												
100												
120												
120												
120												
120												
150		120		0.20	695	EKXJ201E□□121ML20S		100	12.5×30	0.20	660	
150												
180				-								
180				_	-						+	
180												
220 12.5×40 0.20 1,075 EKXJ201E□□221MK40S 220 12.5×45 0.20 1,110 EKXJ201E□□221MK45S 220 14.5×35.5 0.20 1,095 EKXJ201E□□221MW19S 220 18×25 0.20 1,050 EKXJ201E□□221MW25S 270 12.5×50 0.20 1,250 EKXJ201E□□271MK50S 270 14.5×40 0.20 1,250 EKXJ201E□□271MU40S 270 14.5×45 0.20 1,290 EKXJ201E□□271MU40S 270 16×31.5 0.20 1,290 EKXJ201E□□271MLN3S 270 16×35.5 0.20 1,250 EKXJ201E□□271MLP1S 330 16×40 0.20 1,450 EKXJ201E□□271MLP1S 330 16×40 0.20 1,450 EKXJ201E□□331MU50S 330 18×31.5 0.20 1,395 EKXJ201E□□331MU50S 330 18×31.5 0.20 1,395 EKXJ201E□□331MU50S 330 18×31.5 0.20 1,565 EKXJ201E□□331MMN3S 390 16×45 0.20 1,575 EKXJ201E□□331MMN3S 390 16×45 0.20 1,555 EKXJ201E□□391MMP1S 470 16×50 0.20 1,755 EKXJ201E□□391MMP1S 470 16×50 0.20 1,755 EKXJ201E□□391MMP1S 470 18×40 0.20 1,755 EKXJ201E□□391MMP1S 470 18×40 0.20 1,755 EKXJ201E□□391MMP1S 470 18×45 0.20 1,770 EKXJ201E□□471MM40S 470 18×45 0.20 1,770 EKXJ201E□□471MM40S												
220         12.5×45         0.20         1,110         EKXJ201E□□221MK45S           220         14.5×35.5         0.20         1,095         EKXJ201E□□221MUP1S           220         18×25         0.20         1,050         EKXJ201E□□221MM25S           270         12.5×50         0.20         1,265         EKXJ201E□□271MK50S           270         14.5×40         0.20         1,250         EKXJ201E□□271MU40S           270         14.5×45         0.20         1,290         EKXJ201E□□271MU40S           270         16×31.5         0.20         1,290         EKXJ201E□□271MU40S           270         16×31.5         0.20         1,250         EKXJ201E□□271MU40S           270         16×31.5         0.20         1,290         EKXJ201E□□271MU40S           270         16×31.5         0.20         1,250         EKXJ201E□□271MU40S           330         14.5×50         0.20         1,250         EKXJ201E□□271MU40S           330         16×31.5         0.20         1,250         EKXJ201E□□271MU40S           330         16×31.5         0.20         1,450         EKXJ201E□□331MU50S           330         18×31.5         0.20         1,450         EKXJ201E□□331MM0S	200						250				+	
220       18×25       0.20       1,050       EKXJ201E□□221MM25S         270       12.5×50       0.20       1,265       EKXJ201E□□271MK50S         270       14.5×40       0.20       1,250       EKXJ201E□□271MU40S         270       14.5×45       0.20       1,290       EKXJ201E□□271MU40S         270       16×31.5       0.20       1,290       EKXJ201E□□271MU40S         270       16×31.5       0.20       1,290       EKXJ201E□□271MLN3S         270       16×35.5       0.20       1,250       EKXJ201E□□271MLN3S         270       16×35.5       0.20       1,250       EKXJ201E□□271MLN3S         270       16×35.5       0.20       1,250       EKXJ201E□□271MLP1S         330       14.5×50       0.20       1,450       EKXJ201E□□331MU50S         330       16×40       0.20       1,455       EKXJ201E□331MMN3S         330       18×31.5       0.20       1,395       EKXJ201E□331MMN3S         390       18×35.5       0.20       1,575       EKXJ201E□391MMP1S         470       16×50       0.20       1,755       EKXJ201E□391MMP1S         470       16×50       0.20       1,745       EKXJ201E□391MMP1S <t< td=""><td></td><td>220</td><td></td><td>0.20</td><td></td><td></td><td></td><td>150</td><td></td><td></td><td>870</td><td></td></t<>		220		0.20				150			870	
270       12.5 × 50       0.20       1,265       EKXJ201E□□271MK50S         270       14.5 × 40       0.20       1,250       EKXJ201E□□271MU40S         270       14.5 × 45       0.20       1,290       EKXJ201E□□271MU45S         270       16 × 31.5       0.20       1,290       EKXJ201E□□271MU4SS         270       16 × 31.5       0.20       1,290       EKXJ201E□□271MLN3S         270       16 × 35.5       0.20       1,250       EKXJ201E□□271MLN3S         270       16 × 35.5       0.20       1,250       EKXJ201E□□271MLV3S         270       16 × 31.5       0.20       1,250       EKXJ201E□□271MLV3S         270       16 × 35.5       0.20       1,250       EKXJ201E□□271MLV3S         270       16 × 35.5       0.20       1,450       EKXJ201E□□331MLV3S         330       16 × 40       0.20       1,455       EKXJ201E□□331MMN3S         330       18 × 31.5       0.20       1,395       EKXJ201E□331MMN3S         390       18 × 35.5       0.20       1,575       EKXJ201E□391MMP1S         470       16 × 50       0.20       1,745       EKXJ201E□391MMP1S         470       18 × 40       0.20       1,745       EKXJ20		220	14.5×35.5	0.20	1,095	EKXJ201E□□221MUP1S		180	12.5×50	0.20	1,035	EKXJ251E□□181MK50S
270       14.5×40       0.20       1,250       EKXJ201E□□271MU40S         270       14.5×45       0.20       1,290       EKXJ201E□□271MU45S         270       16×31.5       0.20       1,220       EKXJ201E□□271MLN3S         270       16×35.5       0.20       1,250       EKXJ201E□□271MLP1S         330       14.5×50       0.20       1,450       EKXJ201E□□271MLP1S         330       16×40       0.20       1,425       EKXJ201E□□331MU50S         330       18×31.5       0.20       1,425       EKXJ201E□□331MMN3S         330       18×31.5       0.20       1,575       EKXJ201E□□331MMN3S         390       16×45       0.20       1,575       EKXJ201E□□391ML4SS         390       18×35.5       0.20       1,755       EKXJ201E□391ML4SS         470       16×50       0.20       1,755       EKXJ201E□391ML4SS         470       18×40       0.20       1,745       EKXJ201E□391ML4SS         470       18×45       0.20       1,745       EKXJ201E□391ML4SS         330       18×40       0.20       1,745       EKXJ201E□391ML4SS												
270       14.5×45       0.20       1,290       EKXJ201E□□271MU45S         270       16×31.5       0.20       1,220       EKXJ201E□□271MLN3S         270       16×35.5       0.20       1,250       EKXJ201E□□271MLP1S         330       14.5×50       0.20       1,450       EKXJ201E□□331MU50S         330       16×40       0.20       1,425       EKXJ201E□□331ML40S         330       18×31.5       0.20       1,395       EKXJ201E□□331MMN3S         390       16×45       0.20       1,575       EKXJ201E□□391ML45S         390       18×35.5       0.20       1,565       EKXJ201E□□391MMP1S         470       16×50       0.20       1,755       EKXJ201E□□471ML50S         470       18×40       0.20       1,745       EKXJ201E□□471MM40S         470       18×45       0.20       1,770       EKXJ201E□3471MM45S				_							· ·	
270				_								
270       16×35.5       0.20       1,250       EKXJ201E□□271MLP1S         330       14.5×50       0.20       1,450       EKXJ201E□□331MU50S         330       16×40       0.20       1,425       EKXJ201E□□331ML40S         330       18×31.5       0.20       1,395       EKXJ201E□□331MMN3S         390       16×45       0.20       1,575       EKXJ201E□□391ML45S         390       18×35.5       0.20       1,565       EKXJ201E□□391MMP1S         470       16×50       0.20       1,755       EKXJ201E□□371ML50S         470       18×40       0.20       1,755       EKXJ201E□□471MM40S         470       18×45       0.20       1,745       EKXJ201E□□471MM40S         470       18×45       0.20       1,770       EKXJ201E□□471MM45S				_							†	
330											· ·	
330 16×40 0.20 1,425 EKXJ201E□□331ML40S 330 18×31.5 0.20 1,395 EKXJ201E□□331MMN3S 390 16×45 0.20 1,575 EKXJ201E□□391ML45S 390 18×35.5 0.20 1,565 EKXJ201E□□391MMP1S 470 16×50 0.20 1,755 EKXJ201E□□391MMP1S 470 18×40 0.20 1,745 EKXJ201E□□471MM40S 470 18×45 0.20 1,770 EKXJ201E□□471MM45S 330 18×40 0.20 1,475 EKXJ251E□□331MM40S 330 18×40 0.20 1,466 EKXJ251E□□331MM40S 330 18×45 0.20 1,485 EKXJ251E□□331MM40S				_	<del>                                     </del>						· ·	
330 18×31.5 0.20 1,395 EKXJ201E□□331MMN3S 390 16×45 0.20 1,575 EKXJ201E□□391ML45S 390 18×35.5 0.20 1,565 EKXJ201E□□391MMP1S 470 16×50 0.20 1,755 EKXJ201E□□471ML50S 470 18×40 0.20 1,745 EKXJ201E□□471MM40S 470 18×45 0.20 1,770 EKXJ201E□□471MM45S 330 18×45 0.20 1,485 EKXJ251E□□271ML40S 270 16×40 0.20 1,310 EKXJ251E□□271ML40S 270 16×45 0.20 1,310 EKXJ251E□□271MMP1S 330 16×50 0.20 1,475 EKXJ251E□□331MM40S 330 18×40 0.20 1,460 EKXJ251E□□331MM40S 330 18×45 0.20 1,485 EKXJ251E□□331MM40S				_								
390 18×35.5 0.20 1,565 EKXJ201E□□391MMP1S 470 16×50 0.20 1,755 EKXJ201E□□471ML50S 470 18×40 0.20 1,745 EKXJ201E□□471MM40S 470 18×45 0.20 1,770 EKXJ201E□□471MM45S 270 18×35.5 0.20 1,300 EKXJ251E□□271MMP1S 330 16×50 0.20 1,475 EKXJ251E□□331ML50S 330 18×40 0.20 1,460 EKXJ251E□□331MM40S 330 18×45 0.20 1,485 EKXJ251E□□331MM40S				_								
470       16×50       0.20       1,755       EKXJ201E□□471ML50S         470       18×40       0.20       1,745       EKXJ201E□□471MM40S         470       18×45       0.20       1,770       EKXJ201E□□471MM45S         330       16×50       0.20       1,475       EKXJ251E□□331ML50S         330       18×40       0.20       1,460       EKXJ251E□□331MM40S         330       18×45       0.20       1,485       EKXJ251E□□331MM45S											1	
470       18×40       0.20       1,745       EKXJ201E□□471MM40S       330       18×40       0.20       1,460       EKXJ251E□□331MM40S         470       18×45       0.20       1,770       EKXJ201E□□471MM45S       330       18×45       0.20       1,485       EKXJ251E□□331MM45S				-							1	
470 18×45 0.20 1,770 EKXJ201E□□471MM45S 330 18×45 0.20 1,485 EKXJ251E□□331MM45S				-							1	
											<del>                                     </del>	
		560	18×45 18×50	0.20	1,770	EKXJ201E 561MM50S		390	18×45 18×50	0.20	1,485	EKXJ251E 331MM45S EKXJ251E 391MM50S

 $\square\,\square$  : Enter the appropriate lead forming or taping code.





## **STANDARD RATINGS**

WV (V <sub>dc</sub> )	Cap (µF)	Case size $\phi$ D×L(mm)	tan δ	Rated ripple current (mArms/105°C, 120Hz)	Part No.	WV (V <sub>dc</sub> )	Cap (µF)	Case size φD×L(mm)	tan δ	Rated ripple current (mArms/105°C, 120Hz)	Part No.
	12	10×16	0.24	135	EKXJ351E□□120MJ16S		6.8	10×16	0.24	105	EKXJ421E□□6R8MJ16S
	22	10×20	0.24	200	EKXJ351E□□220MJ20S		12	10×20	0.24	150	EKXJ421E□□120MJ20S
	27	10×25	0.24	240	EKXJ351E 270MJ25S		15	10×25	0.24	185	EKXJ421E 150MJ25S
	27 33	10×30	0.24	255 330	EKXJ351E 270MJ30S		18 22	10×30	0.24	215	EKXJ421E 180MJ30S
	39	12.5×20 10×35	0.24	325	EKXJ351E□□330MK20S EKXJ351E□□390MJ35S		27	12.5×20 10×35	0.24	285 275	EKXJ421E□□220MK20S EKXJ421E□□270MJ35S
	47	10×33	0.24	375	EKXJ351E 470MJ40S		27	10×33	0.24	290	EKXJ421E 270MJ40S
	47	12.5×25	0.24	425	EKXJ351E 470MK25S		27	12.5×25	0.24	340	EKXJ421E 270MK25S
	47	14.5×20	0.24	420	EKXJ351E□□470MU20S		27	14.5×20	0.24	335	EKXJ421E□□270MU20S
	56	10×45	0.24	425	EKXJ351E□□560MJ45S		33	10×45	0.24	335	EKXJ421E□□330MJ45S
	56	12.5×30	0.24	495	EKXJ351E□□560MK30S		33	12.5×30	0.24	400	EKXJ421E□□330MK30S
	56	16×20	0.24	475	EKXJ351E□□560ML20S		33	16×20	0.24	385	EKXJ421E□□330ML20S
	68	10×50	0.24	485	EKXJ351E 680MJ50S		39	10×50	0.24	375	EKXJ421E 390MJ50S
	68	12.5 × 35	0.24	580	EKXJ351E 680MK35S		39 47	14.5×25	0.24	435	EKXJ421E 390MU25S
	68 68	14.5×25 18×20	0.24	545 550	EKXJ351E□□680MU25S EKXJ351E□□680MM20S		47	12.5×35 16×25	0.24	505 500	EKXJ421E□□470MK35S EKXJ421E□□470ML25S
	82	12.5×40	0.24	655	EKXJ351E B20MK40S		47	18×20	0.24	480	EKXJ421E 470MM20S
	82	14.5×31.5	0.24	645	EKXJ351E B20MUN3S		56	12.5×40	0.24	570	EKXJ421E 560MK40S
350	82	16×25	0.24	625	EKXJ351E□□820ML25S	420	56	12.5×45	0.24	590	EKXJ421E□□560MK45S
	100	12.5×45	0.24	750	EKXJ351E□□101MK45S		56	14.5×31.5	0.24	560	EKXJ421E□□560MUN3S
	100	12.5×50	0.24	770	EKXJ351E□□101MK50S		68	12.5×50	0.24	670	EKXJ421E□□680MK50S
	100	14.5 × 35.5	0.24	740	EKXJ351E□□101MUP1S		68	14.5×35.5	0.24	640	EKXJ421E□□680MUP1S
	100	16×31.5	0.24	740	EKXJ351E□□101MLN3S		68	14.5×40	0.24	660	EKXJ421E□□680MU40S
	100	18×25	0.24	710	EKXJ351E 101MM25S		68	16×31.5	0.24	645	EKXJ421E 680MLN3S
	120	14.5×40	0.24	835	EKXJ351E□□121MU40S EKXJ351E□□121MU45S		68	18×25	0.24	615	EKXJ421E 680MM25S
	120 120	14.5×45 16×35.5	0.24	860 830	EKXJ351E 121MU455		82 82	14.5×45 16×35.5	0.24	750 725	EKXJ421E□□820MU45S EKXJ421E□□820MLP1S
	150	14.5×50	0.24	980	EKXJ351E 121MLF13		82	18×31.5	0.24	730	EKXJ421E 820MMN3S
	150	16×40	0.24	960	EKXJ351E 151ML40S		100	14.5×50	0.24	845	EKXJ421E 101MU50S
	150	16×45	0.24	975	EKXJ351E 151ML45S		100	16×40	0.24	825	EKXJ421E□□101ML40S
	150	18×31.5	0.24	940	EKXJ351E□□151MMN3S		100	16×45	0.24	840	EKXJ421E□□101ML45S
	180	16×50	0.24	1,090	EKXJ351E□□181ML50S		100	18×35.5	0.24	835	EKXJ421E□□101MMP1S
	180	18×35.5	0.24	1,065	EKXJ351E□□181MMP1S		120	16×50	0.24	935	EKXJ421E□□121ML50S
	180	18×40	0.24	1,080	EKXJ351E□□181MM40S		120	18×40	0.24	930	EKXJ421E 121MM40S
	220	18×45	0.24	1,210	EKXJ351E 221MM45S		120	18×45	0.24	945	EKXJ421E 121MM45S
-	220 10	18×50 10×16	0.24	1,220 125	EKXJ351E□□221MM50S EKXJ401E□□100MJ16S		150 6.8	18×50 10×16	0.24	1,060 105	EKXJ421E□□151MM50S EKXJ451E□□6R8MJ16S
	18	10×10	0.24	180	EKXJ401E 180MJ20S		12	10×10	0.24	150	EKXJ451E 120MJ20S
	22	10×25	0.24	215	EKXJ401E 220MJ25S		15	10×25	0.24	185	EKXJ451E 150MJ25S
	27	10×30	0.24	255	EKXJ401E□□270MJ30S		18	10×30	0.24	215	EKXJ451E□□180MJ30S
	27	12.5×20	0.24	300	EKXJ401E□□270MK20S		18	12.5×20	0.24	255	EKXJ451E□□180MK20S
	33	10×35	0.24	300	EKXJ401E□□330MJ35S		22	10×35	0.24	250	EKXJ451E□□220MJ35S
	39	10×40	0.24	340	EKXJ401E□□390MJ40S		27	10×40	0.24	290	EKXJ451E□□270MJ40S
	39	10×45	0.24	355	EKXJ401E 390MJ45S		27	10×45	0.24	305	EKXJ451E 270MJ45S
	39	12.5 × 25	0.24	390	EKXJ401E 390MK25S		27	12.5×25	0.24	340	EKXJ451E 270MK25S
	39 47	14.5×20 12.5×30	0.24	385 455	EKXJ401E□□390MU20S EKXJ401E□□470MK30S		27 33	14.5×20 12.5×30	0.24	335 400	EKXJ451E□□270MU20S EKXJ451E□□330MK30S
	47	16×20	0.24	435	EKXJ401E 470ML20S		33	14.5×25	0.24	400	EKXJ451E 330MU25S
	56	10×50	0.24	440	EKXJ401E 560MJ50S		33	16×20	0.24	385	EKXJ451E□□330ML20S
	56	12.5×35	0.24	525	EKXJ401E□□560MK35S		39	10×50	0.24	375	EKXJ451E□□390MJ50S
	56	14.5×25	0.24	495	EKXJ401E□□560MU25S		39	12.5×35	0.24	460	EKXJ451E□□390MK35S
	56	18×20	0.24	500	EKXJ401E□□560MM20S		39	18×20	0.24	440	EKXJ451E□□390MM20S
	68	12.5×40	0.24	600	EKXJ401E 680MK40S		47	12.5×40	0.24	525	EKXJ451E 470MK40S
400	68	14.5×31.5	0.24	585	EKXJ401E 680MUN3S	450	47	14.5×31.5	0.24	515	EKXJ451E 470MUN3S
	68	16×25	0.24	570	EKXJ401E 680ML25S		47	16×25 12.5×45	0.24	500	EKXJ451E 470ML25S
	82 82	12.5×45 12.5×50	0.24	680 700	EKXJ401E 820MK45S		<u>56</u> 56	14.5 × 45	0.24	590	EKXJ451E□□560MK45S EKXJ451E□□560MUP1S
	82	14.5 × 35.5	0.24	670	EKXJ401E□□820MK50S EKXJ401E□□820MUP1S		56	16×31.5	0.24	580 585	EKXJ451E 560MLN3S
	82	16×31.5	0.24	670	EKXJ401E 820MLN3S		56	18×25	0.24	560	EKXJ451E 560MM25S
	82	18×25	0.24	640	EKXJ401E B20MM25S		68	12.5×50	0.24	670	EKXJ451E 680MK50S
	100	14.5×40	0.24	760	EKXJ401E□□101MU40S		68	14.5×40	0.24	660	EKXJ451E□□680MU40S
	100	14.5×45	0.24	785	EKXJ401E□□101MU45S		68	14.5×45	0.24	680	EKXJ451E□□680MU45S
	100	16×35.5	0.24	760	EKXJ401E□□101MLP1S		68	16×35.5	0.24	660	EKXJ451E□□680MLP1S
	120	14.5 × 50	0.24	875	EKXJ401E 121MU50S		82	14.5×50	0.24	765	EKXJ451E 820MU50S
	120	16×40	0.24	860	EKXJ401E 121ML40S		82	16×40	0.24	750	EKXJ451E 820ML40S
	120 120	16×45 18×31.5	0.24	875 840	EKXJ401E 121ML45S EKXJ401E 121MMN3S		82 82	16×45 18×31.5	0.24	760 730	EKXJ451E□□820ML45S EKXJ451E□□820MMN3S
	120	18 × 35.5	0.24	870	EKXJ401E 121MMP1S		100	16×51.5	0.24	855	EKXJ451E 101ML50S
	150	16×50	0.24	995	EKXJ401E 151ML50S		100	18×35.5	0.24	835	EKXJ451E 101MMP1S
		18×40	0.24	985	EKXJ401E 151MM40S		120	18×40	0.24	930	EKXJ451E 121MM40S
	150	10/1-0									
	150 180	18×45	0.24	1,095	EKXJ401E□□181MM45S		120	18×45	0.24	945	EKXJ451E□□121MM45S

 $\square\,\square$  : Enter the appropriate lead forming or taping code.





#### **STANDARD RATINGS**

WV (V <sub>dc</sub> )	Cap (µF)	Case size φD×L(mm)	tan δ	Rated ripple current (mArms/105°C, 120Hz)	Part No.
	6.8	10×20	0.24	90	EKXJ501E□□6R8MJ20S
	8.2	10 × 25	0.24	110	EKXJ501E□□8R2MJ25S
	10	10×30	0.24	130	EKXJ501E□□100MJ30S
	12	12.5 × 20	0.24	135	EKXJ501E□□120MK20S
	15	10×35	0.24	170	EKXJ501E□□150MJ35S
	15	10 × 40	0.24	175	EKXJ501E□□150MJ40S
500	15	12.5 × 25	0.24	165	EKXJ501E□□150MK25S
500	18	10 × 45	0.24	190	EKXJ501E□□180MJ45S
	18	$12.5 \times 30$	0.24	190	EKXJ501E□□180MK30S
	22	10×50	0.24	230	EKXJ501E□□220MJ50S
	22	12.5 × 35	0.24	220	EKXJ501E□□220MK35S
	27	12.5 × 40	0.24	260	EKXJ501E□□270MK40S
	33	12.5 × 45	0.24	285	EKXJ501E□□330MK45S
	39	12.5 × 50	0.24	330	EKXJ501E□□390MK50S

 $<sup>\</sup>square\,\square$  : Enter the appropriate lead forming or taping code.

## **◆RATED RIPPLE CURRENT MULTIPLIERS**

## Frequency Multipliers

(160 to 450V<sub>dc</sub>)

Capacitance(µF) Frequency(Hz)	120	1k	10k	100k
6.8 to 82	1.00	1.75	2.25	2.50
100 to 680	1.00	1.67	2.05	2.25

(500V<sub>dc</sub>)

Capacitance(µF) Frequency(Hz)	120	1k	10k	100k
6.8 to 22	1.00	1.78	2.30	2.59
27 to 39	1.00	1.75	2.25	2.50

The deterioration of aluminum electrolytic capacitors accelerates their life due to the internal heating produced by ripple current. For details, refer to Section "5-3 Ripple Current Effect on Lifetime" in the catalog, Technical Note.



- Always read "Notes on Use" before using the product in order to enable you to use the product correctly and prevent any faults and accidents from occurring.
- Request the Product Specification on the product of NIPPON CHEMI-CON CORPORATION to refer to it as well as this brochure prior to the order of the products. Some specific notes on use of the ordered product may be described in the specifications.
- The products listed in this catalog are designed and manufactured for general electronics equipment use and are not intended for use in applications that can adversely affect human life; where the malfunction of equipment may cause damage to life or property. In addition, our products are not intended to be used in specific applications that may cause a major social impact. Please consult with us in advance of usage of our products in the following listed applications. ① Aerospace equipment ② Power generation equipment such as thermal power, nuclear power etc. ③ Medical equipment ④ Transport equipment (automobiles, trains, ships, etc.) ⑤ Transportation control equipment ⑥ Disaster prevention / crime prevention equipment ⑦ Highly publicized information processing equipment ⑧ Submarine equipment ⑨ Other applications that are not considered general-purpose applications.
- The circuits described as examples in this catalog and the "delivery specifications" are featured in order to show the operations and usage of our products, however, this fact does not guarantee that the circuits are available to function in your equipment systems. We are not in any case responsible for any failures or damage caused by the use of information contained herein. You should examine our products, of which the characteristics are described in the "delivery specifications" and other documents, and determine whether or not our products suit your requirements according to the specifications of your equipment systems. Therefore, you bear final responsibility regarding the use of our products.
  - Please make sure that you take appropriate safety measures such as use of redundant design and malfunction prevention measures in order to prevent fatal accidents and/or fires in the event any of our products malfunction.
- We strongly recommend our customers to purchase Nippon Chemi-Con products only through our official sales channels. We assume no responsibility for any defects or damages caused by using products purchased from outside our official sales channel or of counterfeit goods. In addition, we will ask the customer to pay the investigation cost for products purchased outside our official sales channel.
- We reserve the right to discontinue production and delivery of products. We do not guarantee that all the products included in this catalog will be available in the future.

  The aforementioned does not apply in the case of individual agreements deviating from the foregoing for customer-specific products
- We continually strive to improve the quality and reliability of our products, but in any case that our product does not meet our published specifications, please stop using it promptly and contact us immediately. As for compensation for non-conforming goods delivered by Chemi-Con, we will limit it only to goods found in non-compliance of our published specifications. This may be accomplished by a no cost replacement of non-conforming individual products, a credit of the piece price paid per each individual non-conforming product, or in other ways deemed necessary.

In addition, we have an established system with enhanced traceability, therefore we will limit the applicable lot items for any potential compensation.

Part Numbering System
Part Numbering System (Appendix)
Standardization
Available Items by Manufacturing Locations
Environmental Measures
Technical Note
Precautions and Guidelines
Recommended Soldering Conditions
Taping, Lead-preforming and Packaging
Available Terminals for Snap-in and Screw Mount Type

# **Mouser Electronics**

**Authorized Distributor** 

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

## Chemi-Con:

EKXJ401ELL560MU25	EKXJ451ELL6R8MJ16S	EKXJ401ELL270MK20S	EKXJ201ELL181MM20S
EKXJ221ELL221MK50S	EKXJ451ELL121MM40S	EKXJ251ELL560MK20S	EKXJ251ELL331MM40S
EKXJ451ELL330MK30S	EKXJ161ELL101MK20S	EKXJ161ELL820MJ25S	EKXJ201ELL270MJ16S
EKXJ221ELL121MK30S	EKXJ221ELL271MMN3S	EKXJ221ELL391MM40S	EKXJ251ELL220MJ16S
EKXJ251ELL330MJ20S	EKXJ351ELL151MMN3S	EKXJ351ELL220MJ20S	EKXJ351ELL680MK35S
EKXJ401ELL121ML40S	EKXJ401ELL121MMN3S	EKXJ401ELL151ML50S	EKXJ401ELL220MJ25S
EKXJ421ELL470MM20S	EKXJ451ELL101MMP1S	EKXJ451ELL270MK25S	EKXJ451ELL470ML25S
EKXJ451ELL680MLP1S	EKXJ451ELL820MMN3S	EKXJ351ELL101MK45S	EKXJ451ELL151MM50S
EKXJ401ELL100MJ16S	EKXJ221ELL151MM20S	EKXJ201ELL561MM50S	EKXJ201ELL101MK25S
EKXJ351ELL101MM25S	EKXJ161ELL151MK25S	EKXJ201ELL151MU25S	EKXJ221ELL151MK35S
EKXJ251ELL181MK50S	EKXJ401ELL181MM45S	EKXJ201ELL221MM25S	EKXJ221ELL221MLN3S
EKXJ161ELL271MK45S	EKXJ221ELL271MLP1S	EKXJ351ELL330MK20S	EKXJ161ELL331MLN3S
EKXJ201ELL471MM45S	EKXJ201ELL471MM40S	EKXJ201ELL560MJ25S	EKXJ451ELL560MM25S
EKXJ421ELL470ML25S	EKXJ251ELL121MK35S	EKXJ351ELL470MK25S	EKXJ421ELL390MU25S
EKXJ401ELL680ML25S	EKXJ401ELL820MLN3S	EKXJ451ELL150MJ25S	EKXJ251ELL221MMN3S
EKXJ161ELL121MJ35S	EKXJ161ELL121MU20S	EKXJ161ELL151MJ40S	EKXJ161ELL151MJ45S
EKXJ161ELL181MJ50S	EKXJ161ELL181MK30S	EKXJ161ELL181ML20S	EKXJ161ELL181MU25S
EKXJ161ELL221MK35S	EKXJ161ELL221ML25S	EKXJ161ELL221MM20S	EKXJ161ELL271MK40S
EKXJ161ELL271MUN3S	EKXJ161ELL331MK50S	EKXJ161ELL331MM25S	EKXJ161ELL331MU40S
EKXJ161ELL391MLP1S	EKXJ161ELL391MU45S	EKXJ161ELL471ML40S	EKXJ161ELL471MMN3S
EKXJ161ELL471MMP1S	EKXJ161ELL471MU50S	EKXJ161ELL560MJ20S	EKXJ161ELL561ML50S
EKXJ161ELL561MM40S	EKXJ161ELL681MM45S	EKXJ161ELL681MM50S	EKXJ161ELL820MJ30S
EKXJ201ELL101MJ35S	EKXJ201ELL101MU20S	EKXJ201ELL121MJ40S	EKXJ201ELL121MJ45S
EKXJ201ELL121MK30S	EKXJ201ELL121ML20S	EKXJ201ELL151MJ50S	EKXJ201ELL151MK35S
EKXJ201ELL181ML25S	EKXJ201ELL181MUN3S	EKXJ201ELL221MK40S	EKXJ201ELL221MK45S