

Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from, Europe, America and south Asia, supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts, Customers Priority, Honest Operation, and Considerate Service", our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip, ALPS, ROHM, Xilinx, Pulse, ON, Everlight and Freescale. Main products comprise IC, Modules, Potentiometer, IC Socket, Relay, Connector. Our parts cover such applications as commercial, industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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# Catalog Number ECNR (.1 - 600A) 250 Volts AC or Less Catalog Number ECSR (.1 - 600A) 600 Volts AC or Less

AMPERE RATINGS						
ECNR 250V						
0.1	1.12	3.2	10	60	225	
0.12	1.25	3.5	12	70	250	
0.15	1.4	4	15	75	300	
0.2	1.5	4.5	17.5	80	350	
0.25	1.6	5	20	90	400	
0.3	1.8	5.6	25	100	450	
0.4	2	6	30	110	500	
0.5	2.25	6.25	35	125	600	
0.6	2.5	7	40	150	_	
0.8	2.8	8	45	175	_	
1	3	9	50	200	_	
		ECSR (	600V	•	•	
0.1	1.25	3.5	12	70	250	
0.15	1.4	4	15	75	300	
0.2	1.5	4.5	17.5	80	350	
0.25	1.6	5	20	90	400	
0.3	1.8	5.6	25	100	450	
0.4	2	6	30	110	500	
0.5	2.25	6.25	35	125	600	
0.6	2.5	7	40	150	_	
0.8	2.8	8	45	175	_	
1	3	9	50	200		
1.12	3.2	10	60	225		

#### **ECNR/ECSR SPECIFICATIONS**

**Dual-Element Time-Delay** 

Voltage Rating: ECNR - 250VAC, ECSR - 600VAC

Ampere Rating: .1 - 600 Amps

Interrupting Rating: 200,000 RMS Symmetrical Amps

Current Limiting: RK5 Fuse

Agency Approvals:

UL Listed, Class RK5, Guide JDDZ, File E162363 CSA Certified HRCI-R per C22.2, No. 248.12

**Self-Certified DC Ratings:** 

Voltage Rating: ECNR (.1-600) 125VDC

ECSR (.1-600) 300VDC

Interrupting Rating: ECNR/ECSR 20,000 Amperes DC

#### **BENEFITS:**

- True dual element construction allows sizing of 125% FLA for motor backup protection.
- · Superior overload and cycling capabilities.
- Current limiting; provides component short-circuit protection.

#### **APPLICATIONS:**

- Recommended for AC power distribution system mains, feeders, and branch circuits.
- · Protection of motors and motor branch circuits.
- Protection of transformers and other inductive loads.
- All general purpose applications including lighting, heating and other non-inductive loads.

#### **RECOMMENDED FUSEBLOCKS:**

Refer to page 136 in this catalog.

#### **RECOMMENDED UPGRADE:**

Class RK1 (LENRK/LESRK) for greater degree of short circuit protection.

CROSS REFERENCE						
VOLTS	EDISON	BUSSMANN	GOULD	LITTELFUSE		
250	ECNR	FRN-R	TR	FLNR		
600	ECSR	FRS-R	TRS	FLSR		



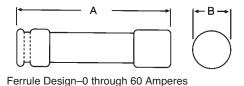
#### **ECNR/ECSR dual element FUSES**

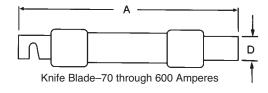
These fuses are recommended for AC power distribution system mains, feeders and branch circuits having inductive loads (motors, transformers) or non-inductive loads (lighting, heating) where the available short-circuit current does not exceed 200,000 RMS symmetrical amperes. These "dual element, time-delay" fuses have minimum industry standard time-delay of 10 seconds at 5 times the fuse rating (8 sec. minimum for 250V, 30A and less). The time-delay

characteristics of these fuses typically allows them to be sized closer to the running ampacity of inductive loads to reduce cost and provide improved overcurrent protection. These fuses will override normal equipment current surges to reduce unnecessary fuse openings. They are the most popular fuses used in the industry and the most economical for most applications, especially motors and transformers. They have moderate current limitation.

CLASS R FUSES WILL FIT CLASS H, K AND R FUSE CLIPS. CLASS R FUSE CLIPS WILL ONLY ACCEPT CLASS R FUSES. FUSES RATED 600 VOLTS AC OR LESS MAY BE APPLIED AT ANY LOWER VOLTAGE. CONTACT EDISON FUSEGEAR FOR SPECIAL PRODUCTS OR APPLICATIONS.

#### **DIMENSIONS**(1)





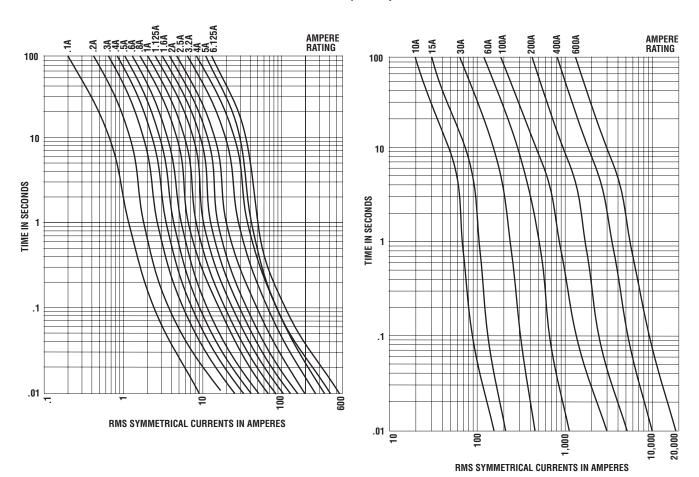


		Overall	Max
Catalog		Length	Diameter
Number	Amps	Α	В
	0-30	2	.56"
	35-60	3	.81"
ECNR	70-100	5.88"	1.06"
250V	110-200	7.13"	1.56"
	225-400	8.63"	2.06"
	450-600	10.38"	2.59"
	0-30	5	.81
	35-60	5.5	1.06
ECSR	65-100	7.88	1.11
600V	110-200	9.63	1.61
	225-400	11.63	2.34
	450-600	13.38	2.88

<sup>(1)</sup> Dimensions in inches.

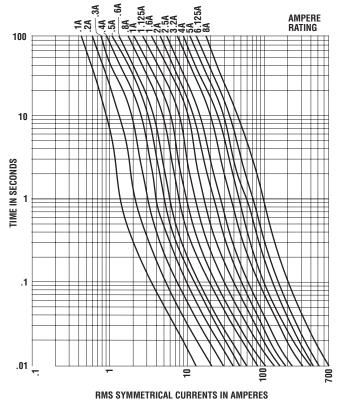


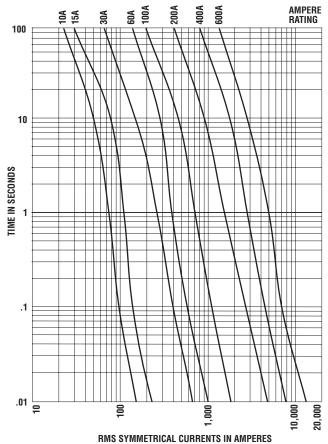
## AVERAGE TIME/CURRENT CURVES Cat No. ECNR (AMP) 250 VAC





## AVERAGE TIME/CURRENT CURVES Cat No. ECSR (AMP) 600 VAC

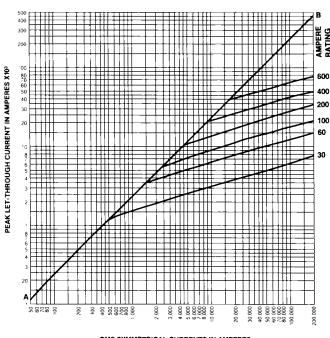






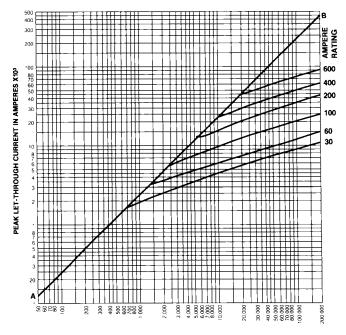
#### PEAK LET-THROUGH CURRENT CURVES\*

## **ECNR (250V)**



RMS SYMMETRICAL CURRENTS IN AMPERES
A—B-ASYMMETRICAL AVAILABLE PEAK (2.3 x SYMM RMS AMPS)

# **ECSR (600V)**



RMS SYMMETRICAL CURRENTS IN AMPERES
A—B-ASYMMETRICAL AVAILABLE PEAK (2.3 x SYMM RMS AMPS)

### **CURRENT LIMITATION TABLES**

## **ECNR (250V)\***

Available						
Fault	Apparent Effective Let-Thru Amperes					
Current	Fuse Ampere Ratings					
RMS Amps 30A		60A	100A	200A	400A	600A
5,000	1,050	2,070	2,820	4,300	5,000	5,000
10,000	1,310	2,570	3,630	5,400	8,700	10,000
15,000	1,490	2,920	4,140	6,200	9,900	15,000
20,000	1,630	3,200	4,500	6,800	10,700	16,100
25,000	1,720	3,420	4,800	7,200	11,400	17,200
30,000	1,840	3,630	5,100	7,700	12,100	18,300
35,000	1,920	3,810	5,400	8,100	12,600	19,200
40,000	2,000	3,980	5,600	8,500	13,100	19,900
50,000	2,140	4,200	6,000	9,100	14,000	21,400
60,000	2,260	4,500	6,400	9,600	14,900	22,600
80,000	2,450	4,900	7,000	10,600	16,000	24,600
100,000	2,620	5,200	7,500	11,400	17,100	26,200
150,000	2,920	5,800	8,300	13,000	19,200	29,200
200,000	3,140	6,200	8,900	14,300	20,800	31,700

## ECSR (600V)\*

Available						
Fault	Apparent Effective Let-Thru Amperes					
Current	Fuse Fuse Ampere Ratings					
RMS Amps 30A		60A	100A	200A	400A	600A
5,000	1,290	2,070	2,980	5,000	5,000	5,000
10,000	1,640	2,590	3,810	6,500	8,800	10,000
15,000	1,890	2,940	4,400	7,500	10,200	15,000
20,000	2,110	3,250	4,800	8,300	11,400	18,200
25,000	2,260	3,470	5,200	8,900	12,400	19,600
30,000	2,420	3,660	5,500	9,600	13,200	21,100
35,000	2,570	3,850	5,800	10,100	14,100	22,400
40,000	2,670	4,030	6,000	10,500	14,700	23,400
50,000	2,890	4,300	6,500	11,400	16,000	25,300
60,000	3,060	4,500	6,900	12,100	17,200	27,000
80,000	3,360	4,900	7,600	13,400	19,100	29,500
100,000	3,630	5,200	8,200	14,400	20,700	31,700
150,000	4,100	5,800	9,300	16,500	23,900	36,300
200,000	4,400	6,100	10,400	18,300	26,700	39,500

<sup>\*&</sup>quot;Apparent Let-Thru Amperes" values are read from "Peak Let-Through Current Curves" and the peak current value divided by 2.3 Asymmetry Factor.