

690/700 Volt

SEMICONDUCTOR PROTECTION FUSES



Ferraz Shawmut 690/700V PSC fuse-links provide maximum flexibility in equipment design and ultimate protection for today's power conversion equipment. These square body fuse-links are available in four different body sizes, each size having seven worldwide acceptable mounting styles. The different mounting styles and body sizes along with a broad range of ampere ratings allow greatest flexibility in equipment design.

The Ferraz Shawmut PSC fuses have been engineered to provide state-of-the-art protection for SCR's, diodes, thyristors, GTO's and IGBT devices. They have pure silver, die-cut elements embedded in solidified sand, which helps control arcing characteristics for low I²t and high interrupting rating. All contact surfaces are silver plated and all hardware is non-magnetic.

All fuse links are equipped with a low voltage trip-indicator. This trip-indicator can operate a field mountable microswitch which is easily mounted directly onto the fuse even while in service.

HIGHLIGHTS:

- Extremely Fast Acting
- Current Limiting
- Very Low I²t
- Worldwide Acceptability Superior Cycling Ability

APPLICATIONS:

- Protection of rectifiers, inverters, DC drives,
- UPS Systems, reduced voltage motor starters, and other equipment in globally accepted applications

Features/Benefits

- **Choice of mounting styles** gives wide choice for equipment design
- **Broad range of ampere ratings** in a given body size for design flexibility
- **IEC 269-4 compliance** for worldwide semiconductor applications

* For Microswitch information see page J8

Ratings

- **AC:** 40-2500A
500-700 VAC
200 kA IR
- **DC:** Consult Factory

Approvals

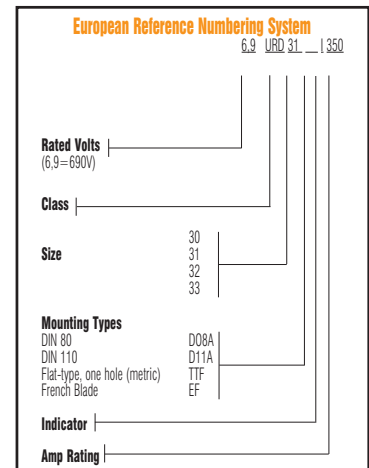
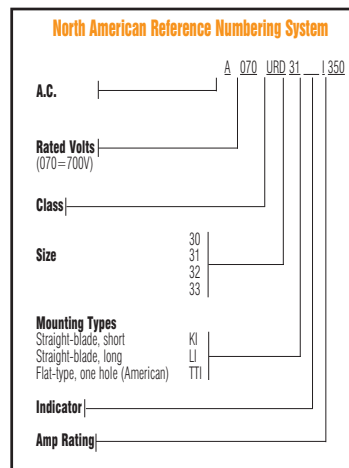
- UL Recognized
Component File E76491
- Sizes 30, 31, 32, 33
tested to IEC 269.4



Part Number Designation:

- 6,9 URD:** European/IEC
Mounting Style/Approval
Tested @ 1.1 V_n
- A070 URD:** North American
Mounting Style/Approval
Tested @ V_n

*V_n = rated voltage



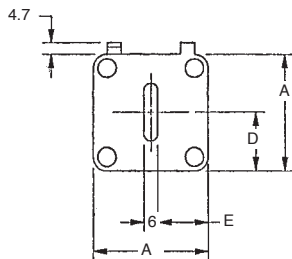
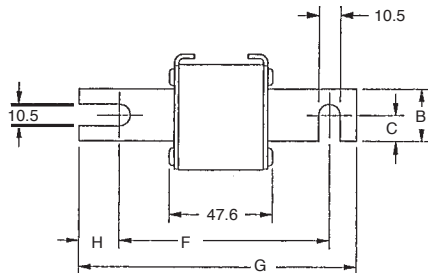
PSC SQUARE BODY

690/700 Volt

SEMICONDUCTOR PROTECTION FUSES

Outline Dimensions

Types D08A and D11A



Dimensions

European Blade, Type D08A

BODY SIZE	TYPE	DIMENSIONS - mm						
		A	B	C	D	E	F	G
30	D08	40	25	12.5	21	17	77	110
31		51	25	12.5	25	22.5	77	110
32		60	32	16	30	27	77	110
33		74.5	40	20	37.2	34.25	77	110

European Blade, Type D11A

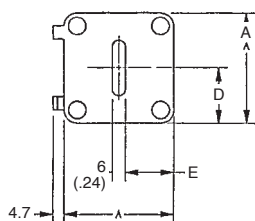
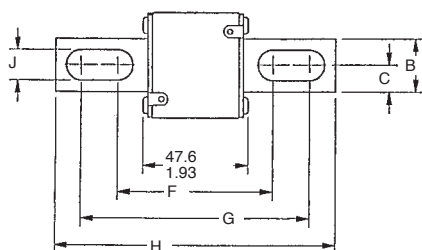
BODY SIZE	TYPE	DIMENSIONS - mm						
		A	B	C	D	E	F	G
30	D11	40	25	12.5	21	17	101.6	134.6
31		51	25	12.5	25.5	22.5	101.6	134.6
32		60	32	16	30	27	101.6	134.6
33		74.5	40	20	37.2	34.25	101.6	134.6



Dimensions

North American Straight Blade, Type KI

Types KI and LI



BODY SIZE	TYPE	DIMENSIONS - mm/(in)									
		A	B	C	D	E	F	G	H	J	
30	KI	40 (1.57)	25 (.98)	12.5 (.49)	21 (.83)	18 (.71)	68 (2.68)	107 (4.21)	129 (5.08)	10.5 (.41)	
31		51 (2.01)	25 (.98)	12.5 (.49)	25.5 (1.0)	22.5 (.89)	67.6 (2.66)	107.1 (4.22)	128.8 (5.07)	14.3 (.56)	
32		60 (2.36)	32 (1.26)	16 (.63)	30 (1.18)	27 (1.06)	74.2 (2.92)	109 (4.29)	134 (5.28)	14.6 (.57)	
33		74.5 (2.93)	40 (1.57)	20 (.79)	37.2 (1.46)	34.2 (1.35)	75.4 (2.97)	107.6 (4.24)	134 (5.28)	15.9 (.63)	

North American Straight Blade, Type LI

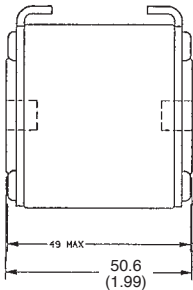
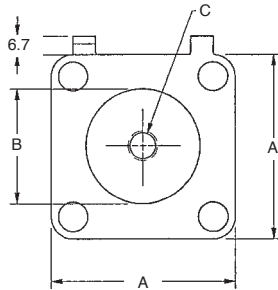
CATALOG NO.	TYPE	DIMENSIONS - mm/(in)									
		A	B	C	D	E	F	G	H	J	
30	LI	40 (1.57)	25 (.98)	12.5 (.49)	21 (.83)	18 (.71)	87.6 (3.45)	126.6 (4.98)	148.6 (5.85)	10.5 (.41)	
31		51 (2.01)	25 (.98)	12.5 (.49)	25.5 (1.00)	22.5 (.89)	91.6 (3.61)	122.4 (4.82)	148.6 (5.85)	14.6 (.57)	
32		60 (2.36)	32 (1.26)	16 (.63)	30 (1.18)	27 (1.06)	94.2 (3.71)	129 (5.08)	153 (6.02)	14.6 (.57)	
33		74.5 (2.93)	40 (1.57)	20 (.79)	37.2 (1.46)	34.2 (1.35)	94.4 (3.72)	126.6 (4.98)	153 (6.02)	15.9 (.63)	

690/700 Volt

SEMICONDUCTOR PROTECTION FUSES

Outline Dimensions

Types TTI and TTF



North American Flat Single Hole, Type TTI

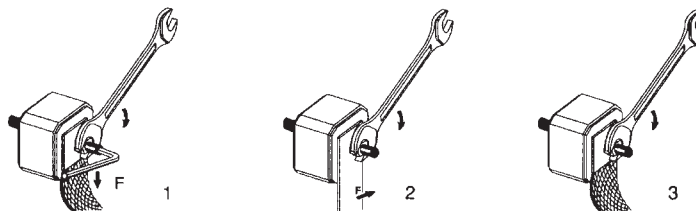
BODY SIZE	TYPE	DIMENSIONS - In/(mm)		
		A	B	C
30	TTI	1.57 (40)	1.00 (25)	5/16-18 X .35
31		2.00 (50.8)	1.19 (30.2)	5/16-18 X .35
32		2.37 (60.3)	1.50 (38.1)	3/8-16 X .35
33		2.94 (74.6)	1.81 (46)	1/2-13 X .35

European Flat Single Hole, Type TTF

BODY SIZE	TYPE	DIMENSIONS - In/(mm)		
		A	B	C
30	TTF	40	26	M8 X 1.25 X 6 DP
31		51	30	M8 X 1.25 X 9 DP
32		60	38	M10 X 1.50 X 9 DP
33		74.5	46	M12 X 1.75 X 9 DP

Standard Threaded Studs

SIZE	REF. AND DIMENSION PER PAIR OF STUDS	WEIGHT (g)	MAX STUD MOUNTING TORQUE (Nm)	MAX NUT TIGHTENING TORQUE (Nm)		
				FIG1	FIG 2	FIG 3
30 & 31	S 98 801 (HC M8 X 30 & M 8 X 35)	23	10	13.5	13.5	13.5
32	T 98 802 (HC M 10 X 30 & M 10 X 50)	40		26	26	26
33	V 98 803 (HC M 12 X 35 & M 12 X 50)	60	15	46	46	46
2X32	W 98 804 (HC M 10 X 50)	50		26	26	26
2X33	X 98 805 (HC M 12 X 50)	70		46	46	46



690/700 Volt

SEMICONDUCTOR PROTECTION FUSES

690 Volt European/IEC Style Ratings and Application Data

Body Size	Amp Rating	Rated Voltage	Melting I ² t (A ² s x 10 ³)	Total I ² t @ 660VAC (A ² s x 10 ³)	**Watts Loss @ Rated Current (W)	DIN 110 Catalog No. Type D11A	DIN 80 Catalog No. Type D08A	French Blade Catalog No. Type EF	Tapped Single Catalog No. Type TTF
30	50	690	0.116	0.68	9	6,9URD30D11A0050	6,9URD30D08A0050	6,9URD30EF0050	6,9URD30TTF0050
	63	690	0.2	1.09	14	6,9URD30D11A0063	6,9URD30D08A0063	6,9URD30EF0063	6,9URD30TTF0063
	80	690	0.33	1.75	19	6,9URD30D11A0080	6,9URD30D08A0080	6,9URD30EF0080	6,9URD30TTF0080
	100	690	0.47	2.5	26	6,9URD30D11A0100	6,9URD30D08A0100	6,9URD30EF0100	6,9URD30TTF0100
	125	690	0.85	4.5	30	6,9URD30D11A0125	6,9URD30D08A0125	6,9URD30EF0125	6,9URD30TTF0125
	160	690	1.6	8.5	37	6,9URD30D11A0160	6,9URD30D08A0160	6,9URD30EF0160	6,9URD30TTF0160
	200	690	3	15.5	42/43	6,9URD30D11A0200	6,9URD30D08A0200	6,9URD30EF0200	6,9URD30TTF0200
	250	690	5.8	30	48/50	6,9URD30D11A0250	6,9URD30D08A0250	6,9URD30EF0250	6,9URD30TTF0250
	315	690	12	62	53/55	6,9URD30D11A0315	6,9URD30D08A0315	6,9URD30EF0315	6,9URD30TTF0315
	350	690	15.5	80	57/60	6,9URD30D11A0350	6,9URD30D08A0350	6,9URD30EF0350	6,9URD30TTF0350
	400	690	23	120	60/65	6,9URD30D11A0400	6,9URD30D08A0400	6,9URD30EF0400	6,9URD30TTF0400
	450	660	26	153	80/88	6,6URD30D11A0450	6,6URD30D08A0450	-	6,6URD30TTF0450
	500	660	41	245	80/88	6,6URD30D11A0500	6,6URD30D08A0500	-	6,6URD30TTF0500
	550	660	52	305	80/90	6,6URD30D11A0550	6,6URD30D08A0550	-	6,6URD30TTF0550
31	200	690	2.6	14	45	6,9URD31D11A0200	6,9URD31D08A0200	6,9URD31EF0200	6,9URD31TTF0200
	250	690	4.7	25	52	6,9URD31D11A0250	6,9URD31D08A0250	6,9URD31EF0250	6,9URD31TTF0250
	315	690	7.5	40	65	6,9URD31D11A0315	6,9URD31D08A0315	6,9URD31EF0315	6,9URD31TTF0315
	350	690	10.5	55	67	6,9URD31D11A0350	6,9URD31D08A0350	6,9URD31EF0350	6,9URD31TTF0350
	400	690	19	100	68	6,9URD31D11A0400	6,9URD31D08A0400	6,9URD31EF0400	6,9URD31TTF0400
	450	690	26.5	140	70	6,9URD31D11A0450	6,9URD31D08A0450	6,9URD31EF0450	6,9URD31TTF0450
	500	690	37	195	70/72	6,9URD31D11A0500	6,9URD31D08A0500	6,9URD31EF0500	6,9URD31TTF0500
	550	690	52	280	70/75	6,9URD31D11A0550	6,9URD31D08A0550	6,9URD31EF0550	6,9URD31TTF0550
	630	690	75	390	75/85	6,6URD31D11A0630	6,6URD31D08A0630	6,9URD31EF0630	6,9URD31TTF0630
	700	690	95	490	85/95	6,9URD31D11A0700	6,9URD31D08A0700	6,9URD31EF0700	6,9URD31TTF0700
800	660	140	815	105/120	6,6URD31D11A0800	6,6URD31D08A0800	-	6,6URD31TTF0800	
32	400	690	15	80	72/75	6,9URD32D11A0400	6,9URD32D08A0400	6,9URD32EF0400	6,9URD32TTF0400
	450	690	22	115	77/80	6,9URD32D11A0450	6,9URD32D08A0450	6,9URD32EF0450	6,9URD32TTF0450
	500	690	28	145	85/90	6,9URD32D11A0500	6,9URD32D08A0500	6,9URD32EF0500	6,9URD32TTF0500
	550	690	37	195	90/95	6,9URD32D11A0550	6,9URD32D08A0550	6,9URD32EF0550	6,9URD32TTF0550
	630	690	54	280	95/105	6,9URD32D11A0630	6,9URD32D08A0630	6,9URD32EF0630	6,9URD32TTF0630
	700	690	76	400	100/110	6,9URD32D11A0700	6,9URD32D08A0700	6,9URD32EF0700	6,9URD32TTF0700
	800	690	115	600	110/120	6,9URD32D11A0800	6,9URD32D08A0800	6,9URD32EF0800	6,9URD32TTF0800
	900	660	170	900	110/125	6,6URD32D11A0900	6,6URD32D08A0900	6,6URD32EF0900	6,6URD32TTF0900
	1000	660	240	1250	115/135	6,6URD32D11A1000	6,6URD32D08A1000	6,6URD32EF1000	6,6URD32TTF1000
	1100	600	270	1620	140/165	-	6URD32D08A1100	-	6URD32TTF1100
	1250	500	410	1940	150/180	-	5URD32D08A1250	-	5URD32TTF1250
	33	500	690	19	100	105	6,9URD33D11A0500	6,9URD33D08A0500	6,9URD33EF0500
550		690	27	140	105/110	6,9URD33D11A0550	6,9URD33D08A0550	6,9URD33EF0550	6,9URD33TTF0550
630		690	40	130	110/120	6,9URD33D11A0630	6,9URD33D08A0630	6,9URD33EF0630	6,9URD33TTF0630
700		690	55	300	115/125	6,9URD33D11A0700	6,9URD33D08A0700	6,9URD33EF0700	6,9URD33TTF0700
800		690	95	490	120/130	6,9URD33D11A0800	6,9URD33D08A0800	6,9URD33EF0800	6,9URD33TTF0800
900		690	135	700	120/135	6,9URD33D11A0900	6,9URD33D08A0900	6,9URD33EF0900	6,9URD33TTF0900
1000		690	170	900	135/155	6,9URD33D11A1000	6,9URD33D08A1000	6,9URD33EF1000	6,9URD33TTF1000
1100		690	240	1260	135/160	6,9URD33D11A1100	6,9URD33D08A1100	6,9URD33EF1100	6,9URD33TTF1100
1250		660	350	1850	150/180	6,6URD33D11A1250	6,6URD33D08A1250	6,6URD33EF1250	6,6URD33TTF1250
1400		660	480	2500	160/200	6,6URD33D11A1400	6,6URD33D08A1400	6,6URD33EF1400	6,6URD33TTF1400
1500		600	500	-	220	6URD33D11A1500	6,6URD33D08A1500	-	6URD33TTF1500
1600		600	555	-	210/240	6URD33D11A1600	6URD33D08A1600	-	6URD33TTF1600
1800		600	720	-	225/260	6URD33D11A1800	6URD33D08A1800	-	6URD33TTF1800
2000		550	950	-	250/290	-	-	-	5,5URD33TTF2000
2250		500	1250	-	280/330	-	-	-	5URD33TTF2250
2500		450	1870	-	280/330	-	-	-	4,5URD33TTF2500

** Watts loss data is published for both blade and tapped style mounting configurations. When two watts loss values are shown this represents tapped/blade values respectively.