



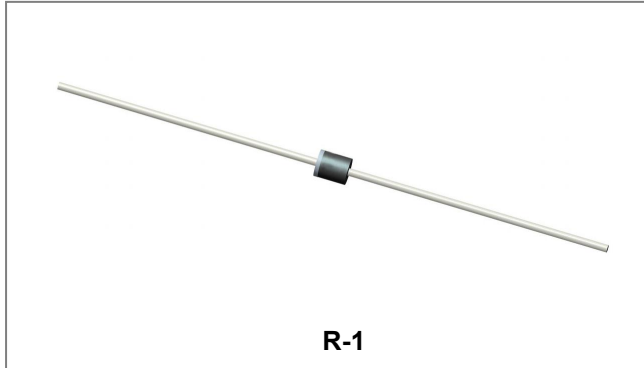
**THE DATASHEET OF**  
**1F7**



# 1F1 THRU 1F7

## FAST RECOVERY RECTIFIERS

*Reverse Voltage - 50 to 1000 Volts Forward Current - 1.0 Amperes*



### Features

- The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- Fast switching for high efficiency
- Low reverse leakage
- High forward surge current capability
- High temperature soldering guaranteed: 260°C/10 seconds, 0.375" (9.5mm) lead length, 5 lbs. (2.3kg) tension
- This is a Pb - Free Device
- All SMC parts are traceable to the wafer lot
- Additional testing can be offered upon request

### Circuit Diagram



### Mechanical Data

- **Case:** R-1 molded plastic body
- **Terminals:** Plated axial leads, solderable per MIL-STD-750, Method 2026
- **Polarity:** Color band denotes cathode end
- **Mounting Position:** Any
- **Weight:** 0.007 ounce, 0.20 grams

### Maximum Ratings and Electrical Characteristics @T<sub>A</sub>=25°C unless otherwise specified

Single phase half-wave 60Hz, resistive or inductive load, for capacitive load current derate by 20%.

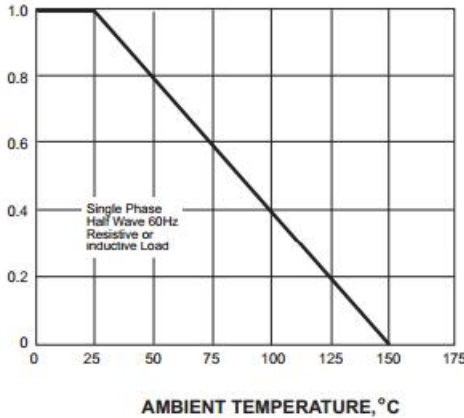
Characteristic	Symbol	1F1	1F2	1F3	1F4	1F5	1F6	1F7	Units
Maximum repetitive peak reverse voltage Maximum DC blocking voltage	V <sub>RRM</sub> V <sub>DC</sub>	50	100	200	400	600	800	1000	V
Maximum RMS voltage	V <sub>RMS</sub>	35	70	140	280	420	560	700	V
Maximum average forward rectified current 0.375" (9.5mm) lead length at @T <sub>A</sub> = 25°C	I <sub>(AV)</sub>	1.0							A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I <sub>FSM</sub>	25.0							A
Maximum instantaneous forward voltage at 1.0A	V <sub>F</sub>	1.3							V
Maximum DC reverse current @T <sub>A</sub> = 25°C At Rated DC Blocking Voltage @T <sub>A</sub> = 125°C	I <sub>RM</sub>	5.0 50							µA
Maximum reverse recovery time (Note 1)	t <sub>rr</sub>	150				250	500		ns
Typical Junction Capacitance (Note 2)	C <sub>J</sub>	15							pF
Typical Thermal Resistance Junction to Ambient (Note 3)	R <sub>θJA</sub>	50							°C/W
Operating junction and storage temperature range	T <sub>J</sub> , T <sub>STG</sub>	-55 to +150							°C

Note: 1. Reverse recovery condition I<sub>F</sub>=0.5A, I<sub>R</sub>=1.0A, I<sub>rr</sub>=0.25A  
 2. Measured at 1MHz and applied reverse voltage of 4.0V D.C.  
 3. Thermal resistance from junction to ambient at 0.375" (9.5mm) lead length, P.C.B. mounted

**Ratings and Characteristics Curves**

AVERAGE FORWARD RECTIFIED CURRENT, AMPERES

FIG. 1- FORWARD CURRENT DERATING CURVE



PEAK FORWARD SURGE CURRENT, AMPERES

FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

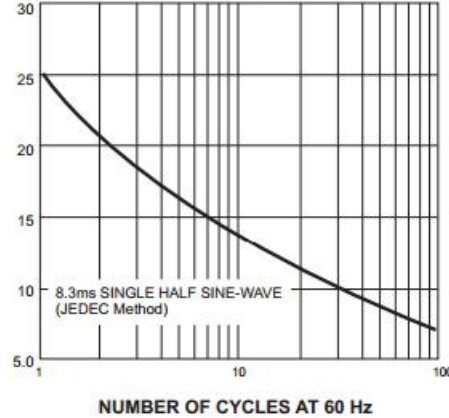


FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

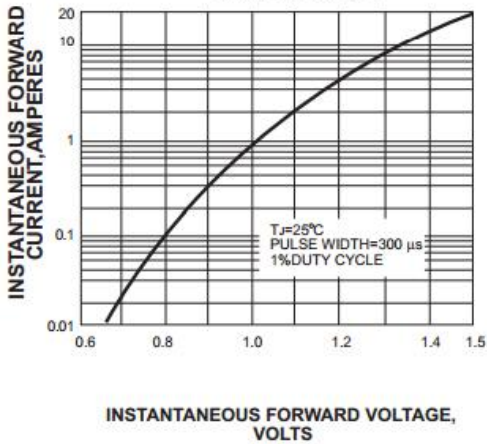


FIG. 4-TYPICAL REVERSE CHARACTERISTICS

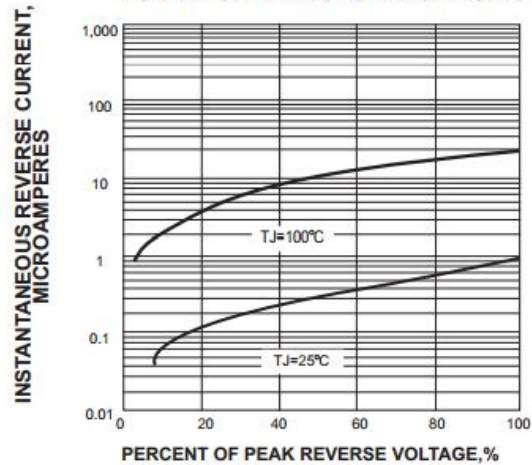


FIG. 5-TYPICAL JUNCTION CAPACITANCE

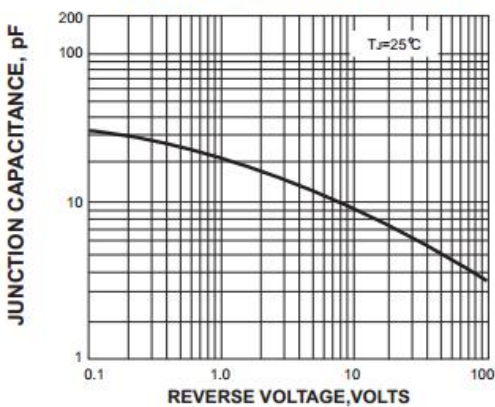
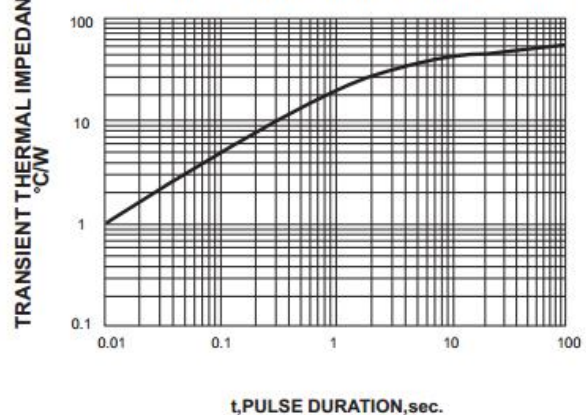
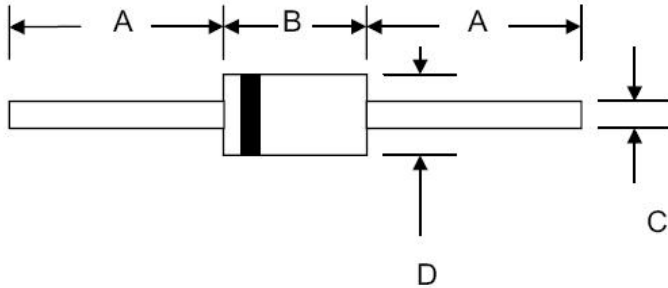


FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE



**Mechanical Dimensions R-1**


SYMBOL	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	25.4	-	1.000	-
B	2.9	3.5	0.114	0.140
C	0.55	0.65	0.021	0.025
D	2.3	2.6	0.091	0.102

**Ordering Information**

Device	Package	Shipping
1F1-1F7	R-1 (Pb-Free)	5000pcs / tape

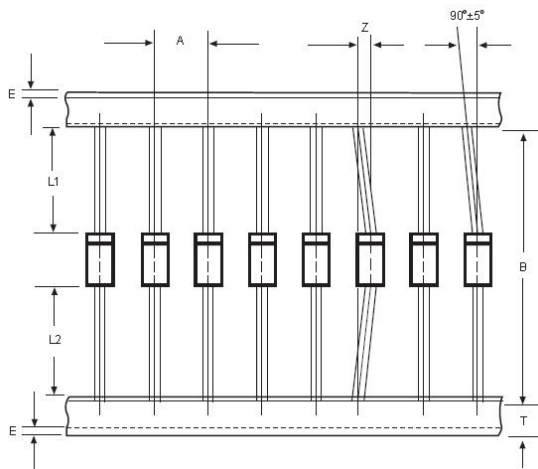
For information on tape and reel specifications, including part orientation and tape sizes, please refer to our tape and reel packaging specification.

**Marking Diagram**


Where XXXXX is YYWWL

1F1 = Part Name  
 SSG = SSG  
 YY = Year  
 WW = Week  
 L = Lot Number

Cautions: Molding resin  
 Epoxy resin UL:94V-0

**Carrier Tape Specification R-1**


SYMBOL	Millimeters	
	Min.	Max.
A	9.5	10.5
B	50.9	53.9
Z	-	1.20
T	5.60	6.40
E	-	0.80
IL1-L2I	-	1.0

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