

## US1001FL~US1008FL

## SMALL SURFACE MOUNT FAST DIODES

VOLTAGE 100 to 800 Volt CURRENT

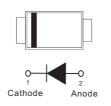
ENT 1 Ampere

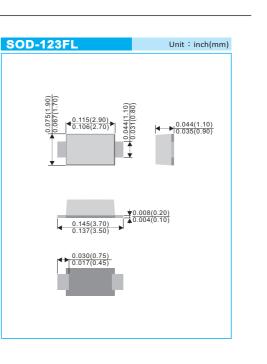
## FEATURES

- For surface mounted applications in order to optimize board space
- Ideal for automated placement
- Glass Passivated Chip Junction
- High temperature soldering : 260<sup>o</sup>C / 10 seconds at terminals
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 standard

#### **MECHANICAL DATA**

- Case: SOD-123FL, Plastic
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 0.0006 ounces, 0.0173 grams
- Polarity: Color band denotes cathode end





## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified. Single phase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%

Rating	Test condition	Symbol	US1001FL	US1002FL	US1004FL	US1006FL	US1008FL	Units
Marking code		-	U1B	U1D	U1G	U1J	U1K	-
Maximum repetitve peak reverse voltage		V <sub>RRM</sub>	100	200	400	600	800	V
Maximum RMS voltage		V <sub>RMS</sub>	70	140	280	420	560	V
Maximum DC blocking voltage		V <sub>R</sub>	100	200	400	600	800	V
Maximum average forward rectified current	T <sub>A</sub> =25°C	I <sub>F(AV)</sub>	1					A
Peak forward surge current 8.3ms single half sine-wave	T <sub>L</sub> =25°C	I <sub>FSM</sub>	30					А
Maximum instantaneous forward voltage	1A	V <sub>F</sub>	1 1.4 1.7			V		
Maximum DC reverse current at rated DC blocking voltage	Tj=25°C	I <sub>R</sub>	1					μΑ
Reverse recovery time	I <sub>F</sub> =0.5A I <sub>R</sub> =1A I <sub>rr</sub> =0.25A	t <sub>rr</sub>	50 100			nS		
Typical capacitance	4V,1MHz	C	9					pF
Typical thermal resistance	(Note 1)	R <sub>eja</sub>	200					°C/W
Operating junction and storage temperature range		T_,T <sub>stg</sub>	-55 to +150					°C

NOTE : 1. Mounted on an FR4 PCB, single-sided copper, mini pad.



#### US1001FL~US1008FL 10 35 400V 100~200V 30 1 25 600~800V ا<sub>ة</sub>[A] C₀[₅F] 20 0.1 15 10 0.01 5 0 0.001 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.0 0.1 10 100 1 $V_{F}[V]$ $V_{R}[V]$ Fig.1-Typical forward characteristics Fig.2-Typical diode capacitance vs. Reverse voltage 1000 INSTANTANEOUS REVERSE CURRENT, uA 1.2 I<sub>F</sub>, FORWARD CURRENT (A) $T_{J} = 150^{\circ}C$ 100 1 0.8 T, = 100°C 0.6 10 0.4 0.2 1.0 т, = 25°С 0 0 25 50 75 100 125 150 T<sub>C</sub>, CASE TEMPERATURE (°C) 0 20 40 60 80 100 120 140 PERCENTAGE OF PEAK REVERSE VOLTAGE,% Fig.3 FORWARD CURRENT DERATING CURVE Fig.4-TYPICAL REVERSE CHARACTERISTIC 35 FORWARD SURGE CURRENT, AMPERES pk (HALF-SING WAVE) 30 25 20 15 10 5 2 4 6 8 10 20 40 60 80 100 1

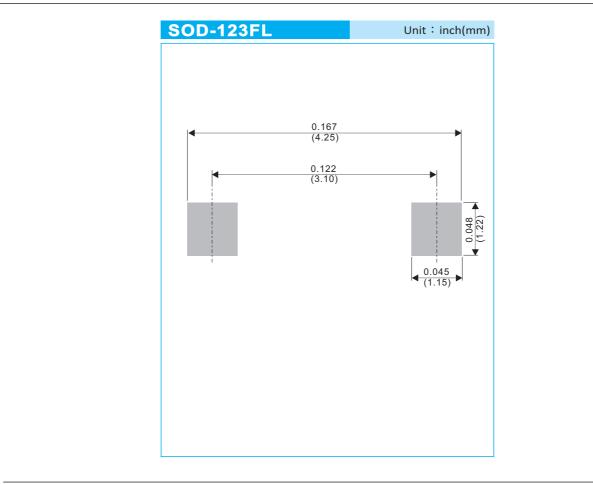
FIG.5 MAXIMUM NON-REPEITIVE SURGE CURRENT

NUMBER OF CYCLES AT 60Hz



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## MOUNTING PAD LAYOUT



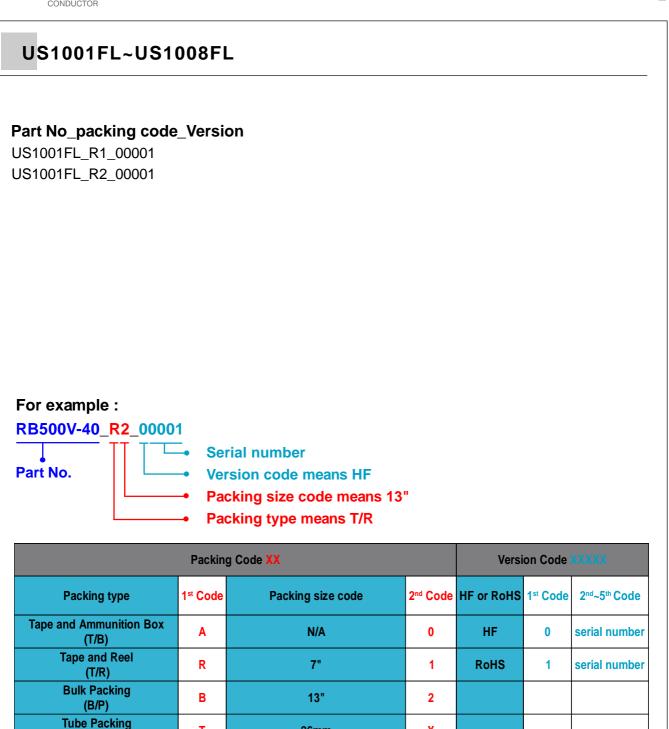
## ORDER INFORMATION

Packing information

T/R - 10K per 13" plastic Reel

T/R - 3K per 7" plastic Reel





(T/P) Tape and Reel (Right Oriented)

(TRR) Tape and Reel (Left Oriented)

(TRL)

FORMING

26mm

52mm

PANASERT T/B CATHODE UP

(PBCU) PANASERT T/B CATHODE DOWN

(PBCD)

Х

Y

U

D

Т

S

L

F





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