

# UF3A thru UF3K

## SURFACE MOUNT ULTRAFAST RECTIFIER



**CHENG-YI  
ELECTRONIC**



### FEATURES

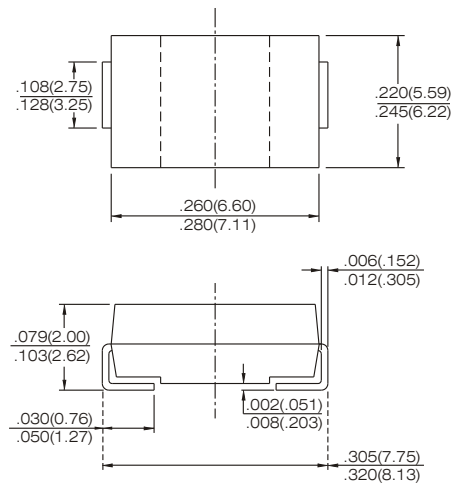
- For surface mounted applications
- Low profile package
- Built-in strain relief
- Easy pick and place
- Ultrafast recovery times for high efficiency
- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Glass passivated junction
- High temperature soldering  
260°C/10 seconds at terminals

### MECHANICAL DATA

- Case: JEDEC DO-214AB molded plastic
- Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity: Indicated by cathode band
- Standard Packaging: 16mm tape (EIA-481)
- Weight: 0.007 ounces, 0.21 gram

VOLTAGE RANGE  
-50 TO 800 VOLTS  
CURRENT  
-3.0 Amperes

### SMC/DO-214AB



Dimensions in inches and (millimeters)

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

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

	SYMBOLS	UF3A	UF3B	UF3D	UF3G	UF3J	UF3K	UNITS
Maximum Recurrent Peak Reverse Voltage	$V_{RRM}$	50	100	200	400	600	800	V
Maximum RMS Voltage	$V_{RMS}$	35	70	140	280	420	560	V
Maximum DC Blocking Voltage	$V_{DC}$	50	100	200	400	600	800	V
Maximum Average Forward Rectified Current, at $T_L=75^\circ\text{C}$	$I_{(AV)}$	3.0						A
Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC Method) $T_A=55^\circ\text{C}$	$I_{FSM}$	100.0						A
Maximum Instantaneous Forward Voltage at 3.0A	$V_F$	1.0		1.4		1.7		V
Maximum DC Reverse Current @ $T_A=25^\circ\text{C}$ at Rated DC Blocking Voltage @ $T_A=100^\circ\text{C}$	$I_R$	10.0 300						$\mu\text{A}$
Maximum Reverse Recovery Time (Note 1) $T_J=25^\circ\text{C}$	$T_{RR}$	50.0				100.0		nS
Typical Junction Capacitance (Note 2)	$C_J$	75.0				63		pF
Maximum Thermal Resistance (Note 3)	$R\theta_{JL}$	15						$^\circ\text{C}/\text{W}$
Operating and Storage Temperature Range	$T_J, T_{STG}$	-50 to +150						$^\circ\text{C}$

- Notes : 1. Reverse Recovery Test Conditions:  $I_F=0.5\text{A}$ ,  $I_R=1.0\text{A}$ ,  $I_{RR}=0.25\text{A}$   
2. Measured at 1.0 MHz and Applied  $V_r=4.0$  volts.  
3.  $8.0\text{mm}^2$  (.013mm thick) land areas.

# UF3A thru UF3K

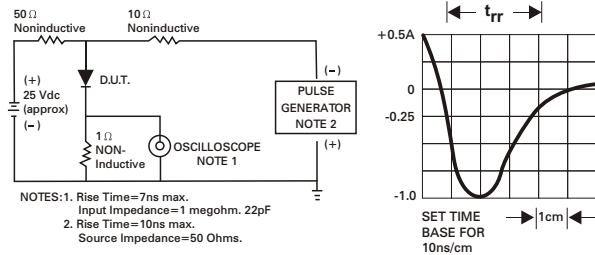
## SURFACE MOUNT ULTRAFAST RECTIFIER



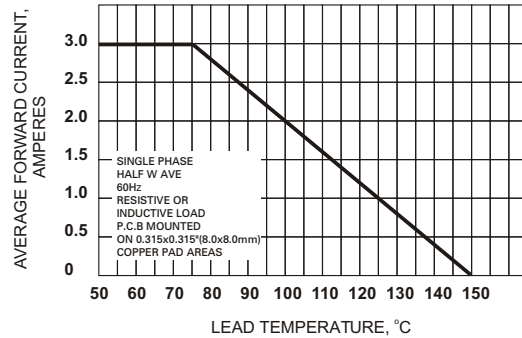
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### RATING AND CHARACTERISTICS CURVES UF3A THRU UF3K

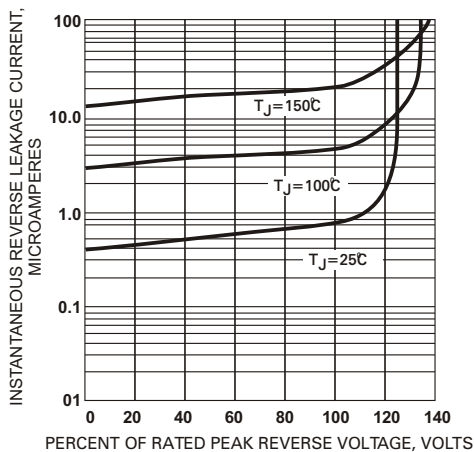
**Fig. 1 - REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM**



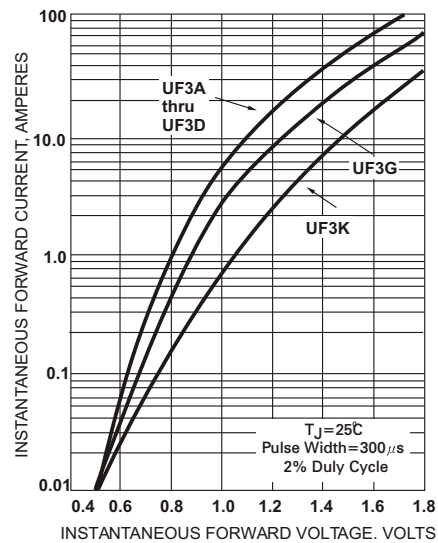
**Fig. 2 - MAXIMUM AVERAGE FORWARD CURRENT RATING**



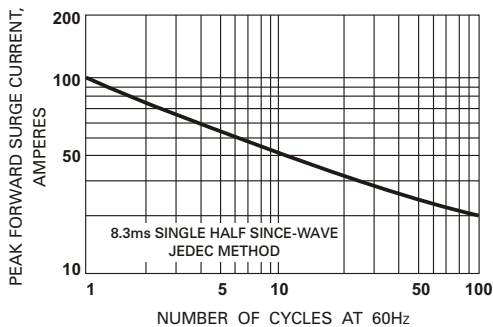
**Fig. 3 - TYPICAL REVERSE CHARACTERISTICS**



**Fig. 4 - TYPICAL FORWARD CHARACTERISTICS**



**Fig. 5 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT**



**Fig. 6 - TYPICAL JUNCTION CAPACITANCE**

