



Micro Commercial Components

Micro Commercial Components  
 20736 Marilla Street Chatsworth  
 CA 91311  
 Phone: (818) 701-4933  
 Fax: (818) 701-4939

# UFS105J THRU UFS180J

## Features

- For Surface Mount Applications
- Extremely Low Thermal Resistance
- High Temp Soldering: 250°C for 10 Seconds At Terminals
- Superfast Recovery Times For High Efficiency

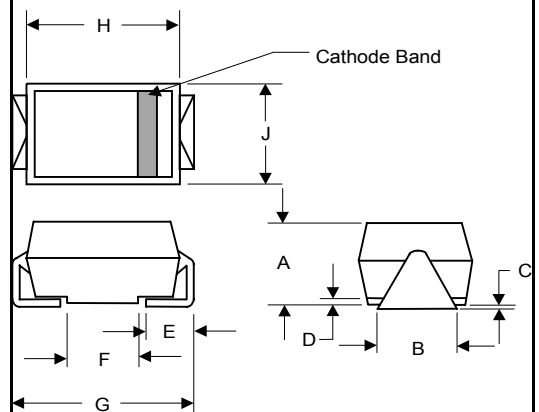
## Maximum Ratings

- Operating Temperature: -50°C to +150°C
- Storage Temperature: -50°C to +150°C

## 1 Amp Super Fast Recovery Silicon Rectifier 50 to 800 Volts

MCC Part Number	Device Marking	Maximum Recurrent Peak Reverse Voltage	Maximum RMS Voltage	Maximum DC Blocking Voltage
UFS105J	UF/105	50V	35V	50V
UFS110J	UF/11	100V	70V	100V
UFS115J	UF/115	150V	105V	150V
UFS120J	UF/12	200V	140V	200V
UFS140J	UF/14	400V	280V	400V
UFS160J	UF/16	600V	420V	600V
UFS180J	UF/18	800V	560V	800V

## DO-214AA (HSMB) (Round Lead)

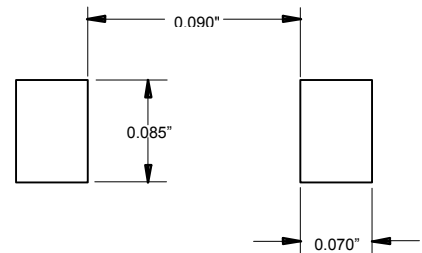


## Electrical Characteristics @ 25°C Unless Otherwise Specified

Average Forward Current	$I_{F(AV)}$	1.0A	$T_J = 75^\circ\text{C}$
Peak Forward Surge Current	$I_{FSM}$	30A	8.3ms, half sine
Maximum Instantaneous Forward Voltage	$V_F$	.975V 1.35V 1.50V	$I_{FM} = 1.0A;$ $T_J = 25^\circ\text{C}^*$
Maximum DC Reverse Current At Rated DC Blocking Voltage	$I_R$	10 $\mu$ A	$T_J = 25^\circ\text{C}$
Maximum Reverse Recovery Time	$T_{rr}$	35ns 50ns 60ns	$I_F=0.5A, I_R=1.0A,$ $I_{rr}=0.25A$
Typical Junction Capacitance	$C_J$	45pF	Measured at 1.0MHz, $V_R=4.0V$

DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.078	.116	1.98	2.95	
B	.075	.089	1.90	2.25	
C	.002	.008	.05	.20	
D	---	.02	---	.51	
E	.035	.055	.90	1.40	
F	.065	.091	1.65	2.32	
G	.205	.224	5.21	5.69	
H	.160	.180	4.06	4.57	
J	.130	.155	3.30	3.94	

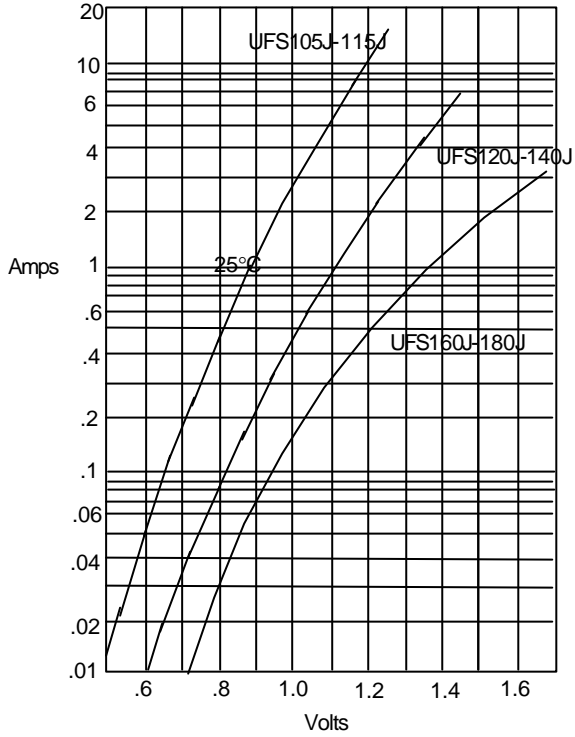
## SUGGESTED SOLDER PAD LAYOUT



\*Pulse test: Pulse width 200  $\mu$ sec, Duty cycle 2%

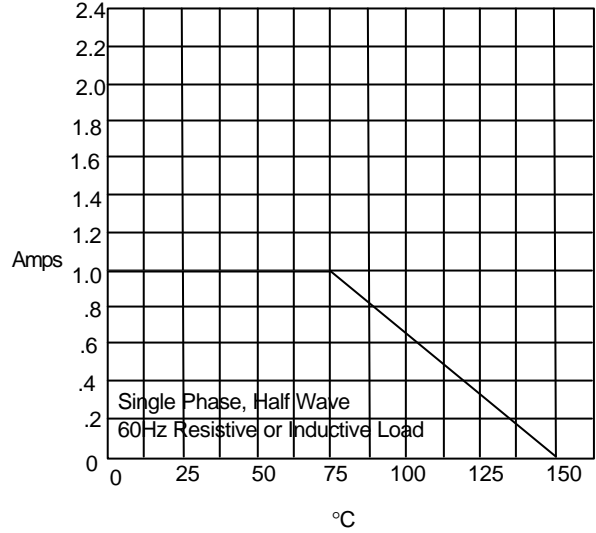
# UFS105J thru UFS180J

Figure 1  
Typical Forward Characteristics



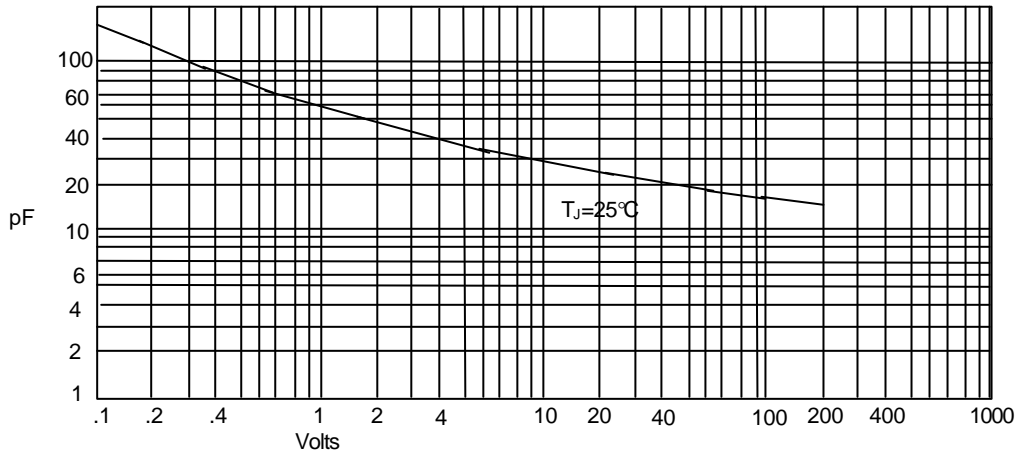
Instantaneous Forward Current - Amperes versus  
Instantaneous Forward Voltage - Volts

Figure 2  
Forward Derating Curve



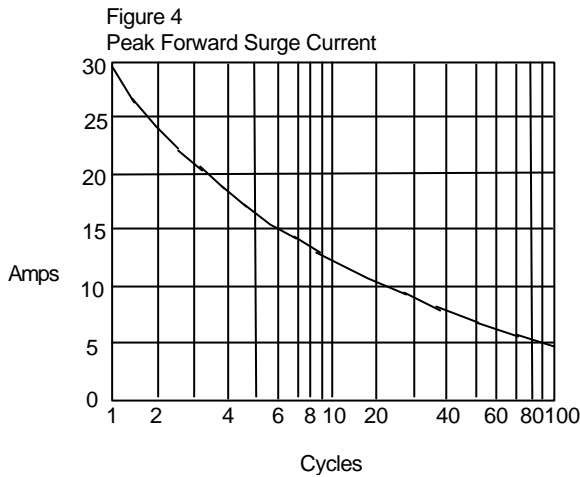
Average Forward Rectified Current - Amperes versus  
Ambient Temperature - °C

Figure 3  
Junction Capacitance



Junction Capacitance - pF versus  
Reverse Voltage - Volts

# UFS105J thru UFS180J



Peak Forward Surge Current - Amperes *versus* Number Of Cycles At 60Hz- Cycles

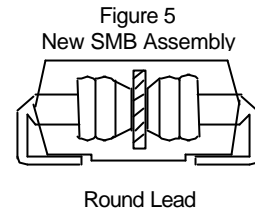
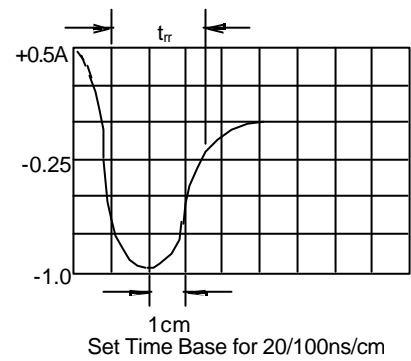
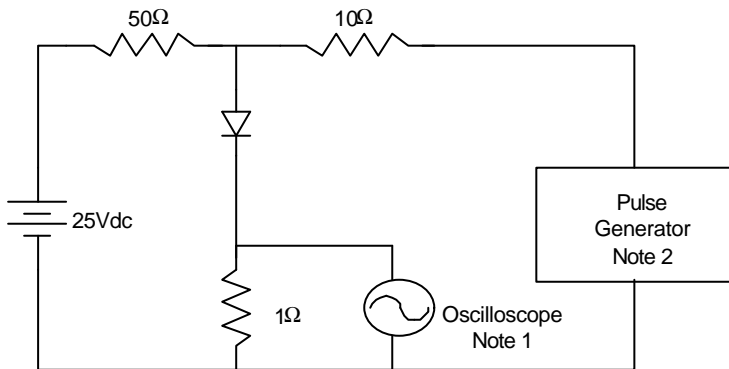


Figure 6  
Reverse Recovery Time Characteristic And Test Circuit Diagram



- Notes:
1. Rise Time = 7ns max.  
Input impedance = 1 megohm, 22pF
  2. Rise Time = 10ns max.  
Source impedance = 50 ohms
  3. Resistors are non-inductive