



Micro Commercial Components



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# US2A THRU US2M

## Features

- Glass Passivated Chip
- Super Fast Switching For High Efficiency
- Low Forward Voltage Drop And High Current Capability
- Low Reverse Leakage Current
- Lead Free Finish/Rohs Compliant (Note1) ("P" Suffix designates Compliant. See ordering information)
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1

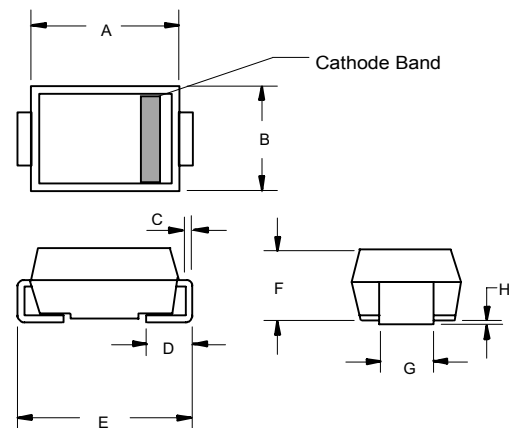
## Maximum Ratings

- Operating Temperature: -50°C to +150°C
- Storage Temperature: -50°C to +150°C
- Maximum Thermal Resistance; 20°C/W Junction To Lead

MCC Catalog Number	Device Marking	Maximum Recurrent Peak Reverse Voltage	Maximum RMS Voltage	Maximum DC Blocking Voltage
US2A	US2A	50V	35V	50V
US2B	US2B	100V	70V	100V
US2C	US2C	150V	105V	150V
US2D	US2D	200V	140V	200V
US2G	US2G	400V	280V	400V
US2J	US2J	600V	420V	600V
US2K	US2K	800V	560V	800V
US2M	US2M	1000V	700V	1000V

## 2 Amp Ultra Fast Rectifier 50 to 1000 Volts

### DO-214AA (SMB) (LEAD FRAME)

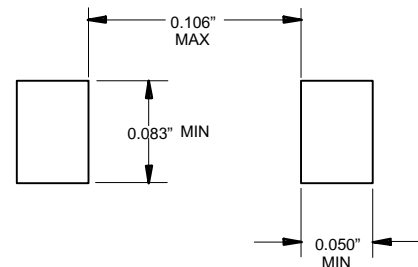


### Electrical Characteristics @ 25°C Unless Otherwise Specified

Average Forward Current	$I_{F(AV)}$	2.0A	$T_L = 110^\circ\text{C}$
Peak Forward Surge Current	$I_{FSM}$	50A	8.3ms, half sine
Maximum Instantaneous Forward Voltage	$V_F$	1.0V 1.4V 1.7V	$I_{FM} = 2.0\text{A};$ $T_J = 25^\circ\text{C}$
	US2A-2D US2G US2J-2M		
Maximum DC Reverse Current At Rated DC Blocking Voltage	$I_R$	5uA 350uA	$T_J = 25^\circ\text{C}$ $T_J = 125^\circ\text{C}$
Maximum Reverse Recovery Time	$T_{rr}$	50ns 100ns	$I_F=0.5\text{A}, I_R=1.0\text{A},$ $I_{rr}=0.25\text{A}$
	US2A-2G US2J-2M		
Typical Junction Capacitance	$C_J$	28pF	Measured at 1.0MHz, $V_R=4.0\text{V}$

DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.160	.180	4.06	4.57	
B	.130	.155	3.30	3.94	
C	.006	.012	0.15	0.31	
D	.030	.060	0.76	1.52	
E	.205	.220	5.21	5.59	
F	.079	.103	2.01	2.62	
G	.077	.087	1.96	2.21	
H	.002	.008	0.05	0.20	

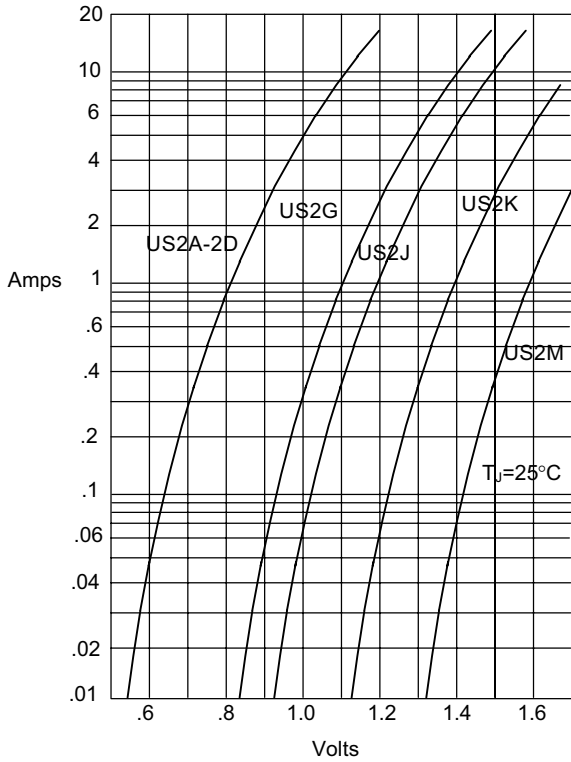
### SUGGESTED SOLDER PAD LAYOUT



\*Pulse test: Pulse width 300 μsec, Duty cycle 1%  
Note: 1. High Temperature Solder Exemptions Applied, see EU Directive Annex 7.

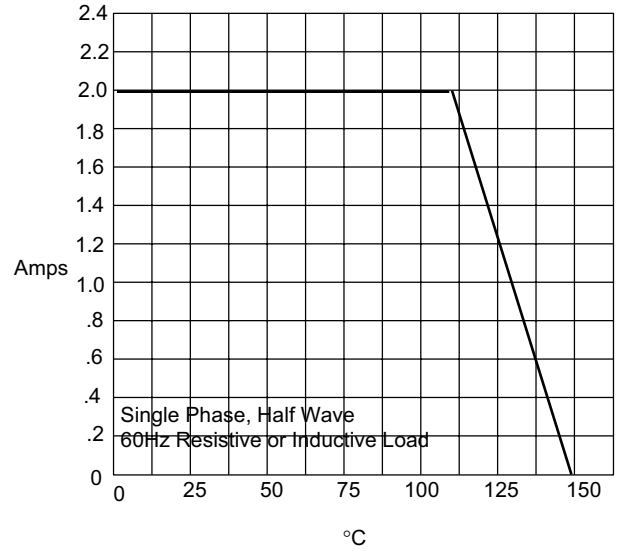
# US2A thru US2M

Figure 1  
Typical Forward Characteristics



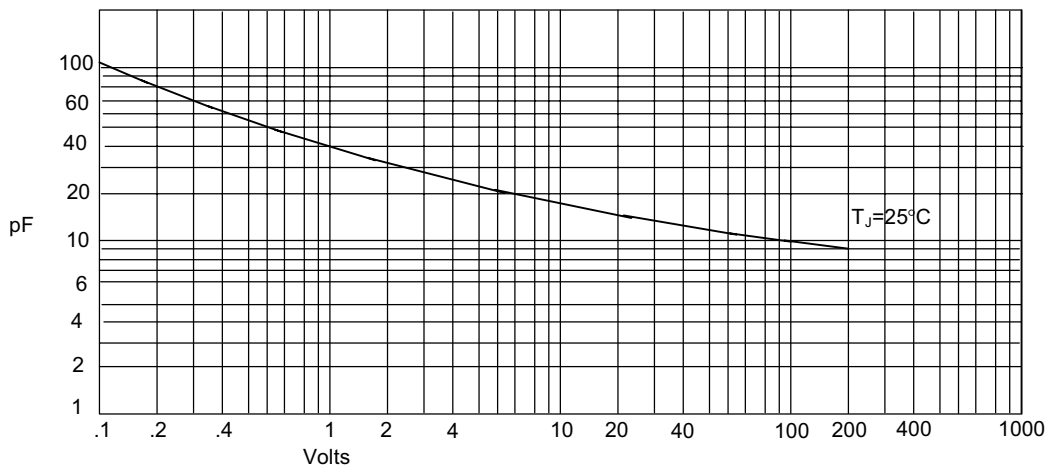
Instantaneous Forward Current - Amperes versus  
Instantaneous Forward Voltage - Volts

Figure 2  
Forward Derating Curve



Average Forward Rectified Current - Amperes versus  
Lead Temperature -  $^\circ\text{C}$

Figure 3  
Junction Capacitance



Junction Capacitance - pF versus  
Reverse Voltage - Volts

# US2A thru US2M

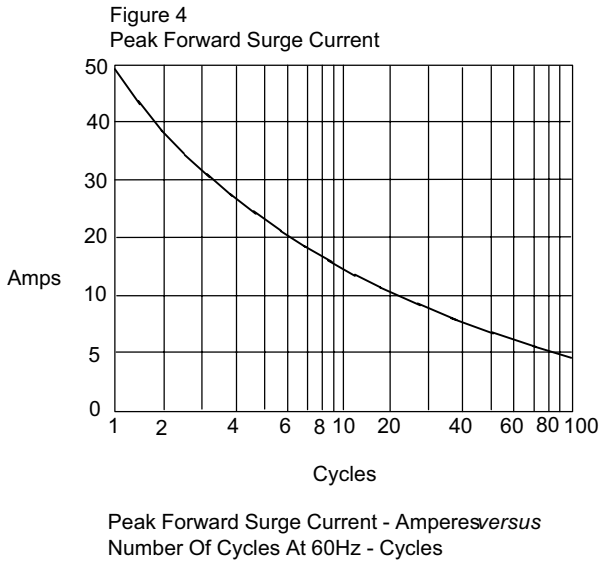
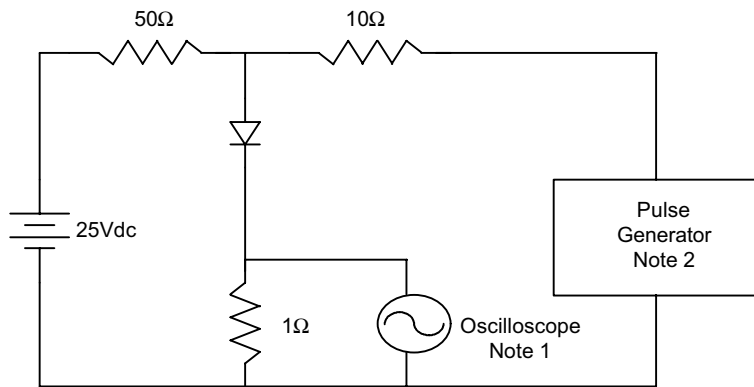
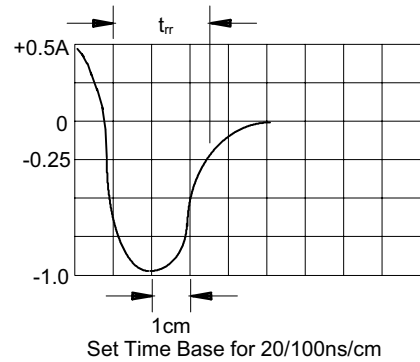


Figure 5  
Reverse Recovery Time Characteristic And Test Circuit Diagram



- 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





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### Ordering Information :

Device	Packing
Part Number-TP	Tape&Reel: 3Kpcs/Reel

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