



Micro Commercial Components

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

# GS1AE-TPS05 THRU GS1ME-TPS05

## Features

- Lead Free Finish/RoHS Compliant(Note 1) ("P" Suffix designates RoHS Compliant. See ordering information)
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1
- For Surface Mount Applications
- Extremely Low Thermal Resistance
- High Temp Soldering:260°C for 10 Seconds At Terminals
- Vacuum Soldering Process Provides Better Surge Capability
- Halogen free available upon request by adding suffix "-HF"

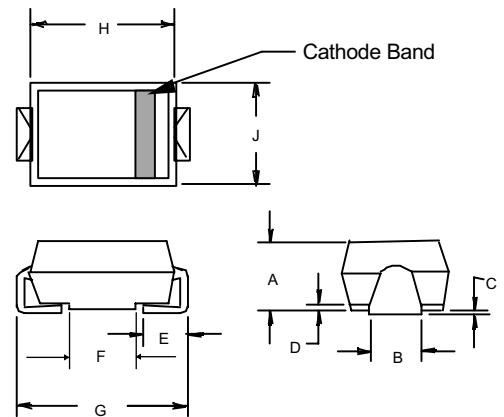
## Maximum Ratings

- Operating Temperature: -55°C to +150°C
- Storage Temperature: -55°C to +150°C
- Maximum Thermal Resistance; 15°C/W Junction To Lead

MCC Catalog Number	Device Marking	Maximum Recurrent Peak Reverse Voltage	Maximum RMS Voltage	Maximum DC Blocking Voltage
GS1AE-TPS05	GS1A	50V	35V	50V
GS1BE-TPS05	GS1B	100V	70V	100V
GS1DE-TPS05	GS1D	200V	140V	200V
GS1GE-TPS05	GS1G	400V	280V	400V
GS1JE-TPS05	GS1J	600V	420V	600V
GS1KE-TPS05	GS1K	800V	560V	800V
GS1ME-TPS05	GS1M	1000V	700V	1000V

## 1.0 Amp Silicon Rectifier 50 to 1000 Volts

### DO-214AC (SMAE)



DIMENSIONS

DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.079	.096	2.01	2.44	
B	.050	.075	1.27	1.90	
C	.002	.008	.05	.20	
D	—	.02	—	.51	
E	.030	.060	.76	1.52	
F	.065	.084	1.65	2.13	
G	.189	.208	4.80	5.30	
H	.157	.180	4.00	4.57	
J	.090	.115	2.29	2.92	

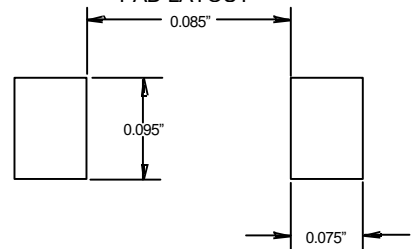
## Electrical Characteristics @ 25°C Unless Otherwise Specified

Average Forward current	$I_{F(AV)}$	1.0A	$T_L = 110^\circ\text{C}$
Peak Forward Surge Current	$I_{FSM}$	30A	8.3ms, half sine,
Maximum Instantaneous Forward Voltage	$V_F$	1.1V	$I_{FM} = 1.0A;$ $T_J = 25^\circ\text{C}^*$
Maximum DC Reverse Current At Rated DC Blocking Voltage	$I_R$	10 $\mu\text{A}$ 50 $\mu\text{A}$	$T_J = 25^\circ\text{C}$ $T_J = 125^\circ\text{C}$
Typical Junction Capacitance	$C_J$	15pF	Measured at 1.0MHz, $V_R=4.0V$

Notes: 1. High Temperature Solder Exemption Applied, see EU Directive Annex Notes 7.

\*Pulse test: Pulse width 300  $\mu\text{sec}$ , Duty cycle 2%

### SUGGESTED SOLDER PAD LAYOUT



# GS1AE-TPS05 thru GS1ME-TPS05

Figure 1  
Typical Forward Characteristics

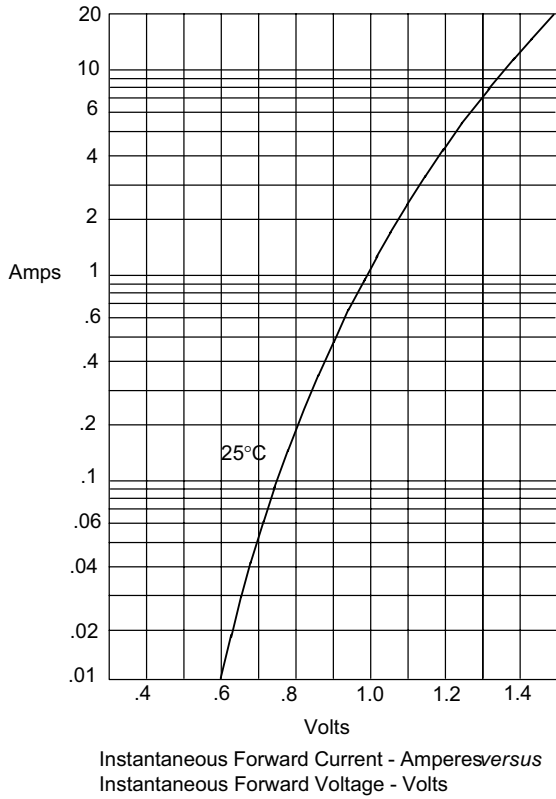


Figure 3  
Maximum Overload Surge Current

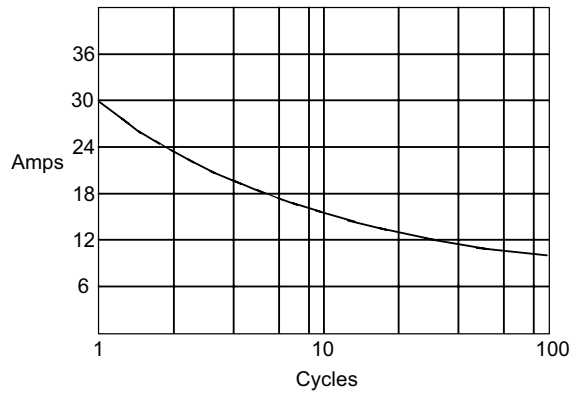


Figure 4  
Forward Derating Curve

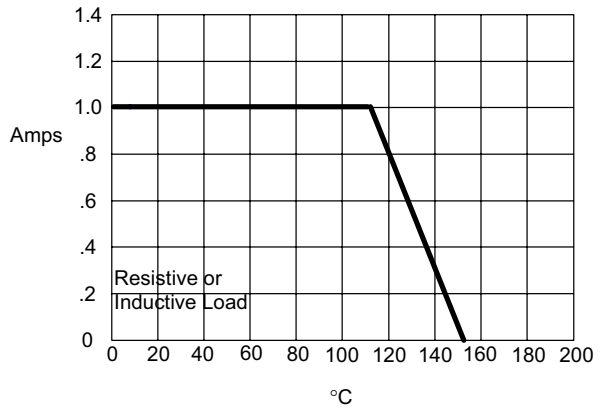
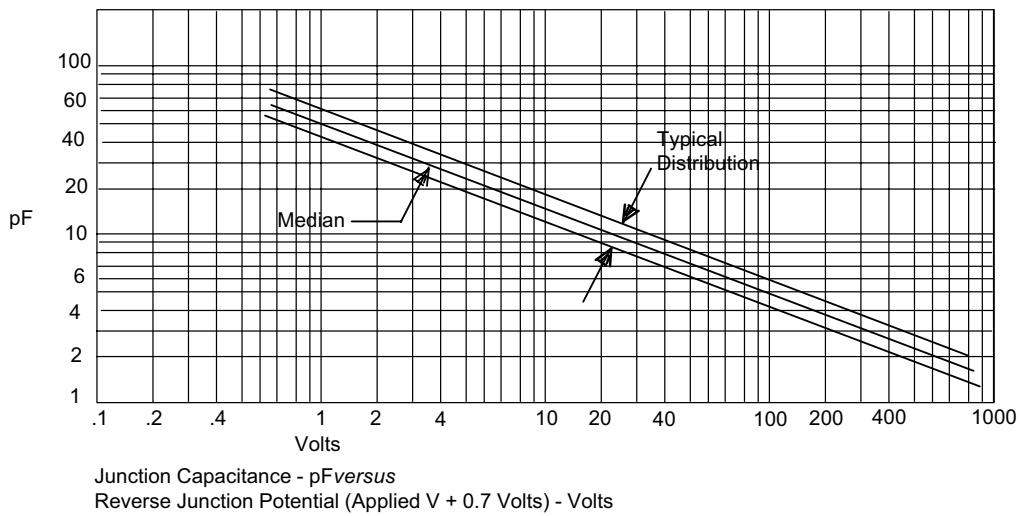


Figure 2  
Junction Capacitance

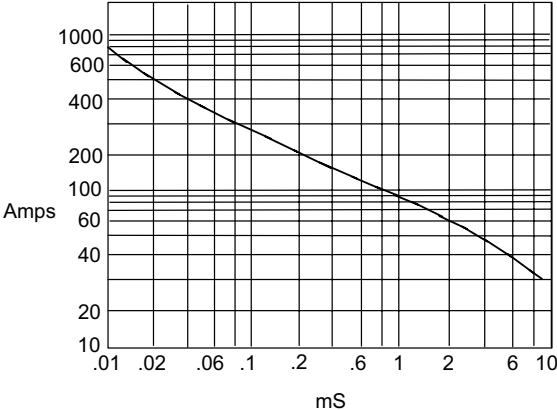


# GS1AE-TPS05 thru GS1ME-TPS05



Micro Commercial Components

Figure 5  
Peak Forward Surge Current



Peak Forward Surge Current - Amperes versus  
Pulse Duration - Milliseconds (mS)



Micro Commercial Components

### Ordering Information :

Device	Packing
GS1AE-TPS05~GS1ME-TPS05	Tape&Reel: 6Kpcs/Reel

Note : Adding "-HF" suffix for halogen free, eg. Part Number-TP-HF

#### \*\*\*IMPORTANT NOTICE\*\*\*

**Micro Commercial Components Corp.** reserves the right to make changes without further notice to any product herein to make corrections, modifications , enhancements , improvements , or other changes . **Micro Commercial Components Corp .** does not assume any liability arising out of the application or use of any product described herein; neither does it convey any license under its patent rights ,nor the rights of others . The user of products in such applications shall assume all risks of such use and will agree to hold **Micro Commercial Components Corp .** and all the companies whose products are represented on our website, harmless against all damages.

#### \*\*\*LIFE SUPPORT\*\*\*

MCC's products are not authorized for use as critical components in life support devices or systems without the express written approval of Micro Commercial Components Corporation.

#### \*\*\*CUSTOMER AWARENESS\*\*\*

Counterfeiting of semiconductor parts is a growing problem in the industry. Micro Commercial Components (MCC) is taking strong measures to protect ourselves and our customers from the proliferation of counterfeit parts. MCC strongly encourages customers to purchase MCC parts either directly from MCC or from Authorized MCC Distributors who are listed by country on our web page cited below. Products customers buy either from MCC directly or from Authorized MCC Distributors are genuine parts, have full traceability, meet MCC's quality standards for handling and storage. **MCC will not provide any warranty coverage or other assistance for parts bought from Unauthorized Sources.** MCC is committed to combat this global problem and encourage our customers to do their part in stopping this practice by buying direct or from authorized distributors.

[www.mccsemi.com](http://www.mccsemi.com)