



Shanghai Minyue
Semiconductors Co.,Ltd
Tel:0086-21-57159233
Fax:0086-21-60415325

FR101 THRU FR107

1 Amp Silicon Rectifier 50 to 1000 Volts

Features

- Lead Free Finish/RoHS Compliant(Note 1) ("P" Suffix designates RoHS Compliant. See ordering information)
- Low Forward Voltage Drop
- High Current Capability
- Fast Switching Speed For High Efficiency
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1

Maximum Ratings

- Typical Thermal Resistance 50°C/W(Rthja)
- Operating Temperature: -55°C to +150°C
- Storage Temperature: -55°C to +150°C

Catalog Number	Device Marking	Maximum Recurrent Peak Reverse Voltage	Maximum RMS Voltage	Maximum DC Blocking Voltage
FR101	FR101	50V	35V	50V
FR102	FR102	100V	70V	100V
FR103	FR103	200V	140V	200V
FR104	FR104	400V	280V	400V
FR105	FR105	600V	420V	600V
FR106	FR106	800V	560V	800V
FR107	FR107	1000V	700V	1000V

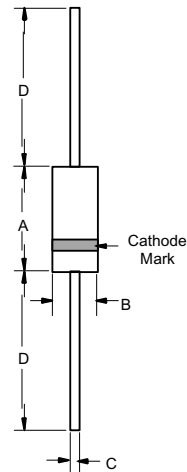
Electrical Characteristics @ 25°C Unless Otherwise Specified

Average Forward Current	$I_{F(AV)}$	1 A	$T_A = 55^\circ\text{C}$
Peak Forward Surge Current	I_{FSM}	30A	8.3ms, half sine
Maximum Instantaneous Forward Voltage	V_F	1.3V	$I_{FM} = 1.0\text{A};$ $T_A = 25^\circ\text{C}$
Maximum DC Reverse Current At Rated DC Blocking Voltage	I_R	5.0μA 100μA	$T_A = 25^\circ\text{C}$ $T_A = 100^\circ\text{C}$
Maximum Reverse Recovery Time	T_{rr}	150ns 250ns 500ns	$I_F=0.5\text{A}, I_R=1.0\text{A},$ $I_{rr}=0.25\text{A}$
Typical Junction Capacitance	C_J	15pF	Measured at 1.0MHz, $V_R=4.0\text{V}$

*Pulse Test: Pulse Width 300μsec, Duty Cycle 1%

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

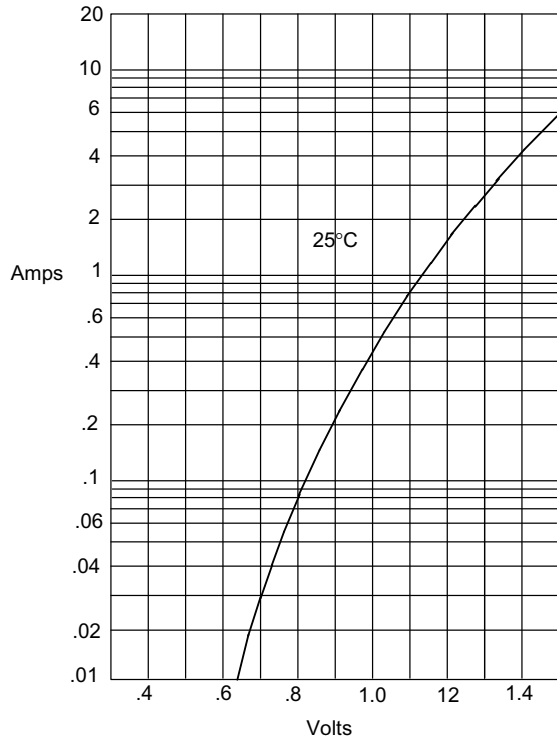
DO-41



DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.166	.205	4.10	5.20	
B	.080	.107	2.00	2.70	
C	.028	.034	.70	.90	
D	1.000	---	25.40	---	

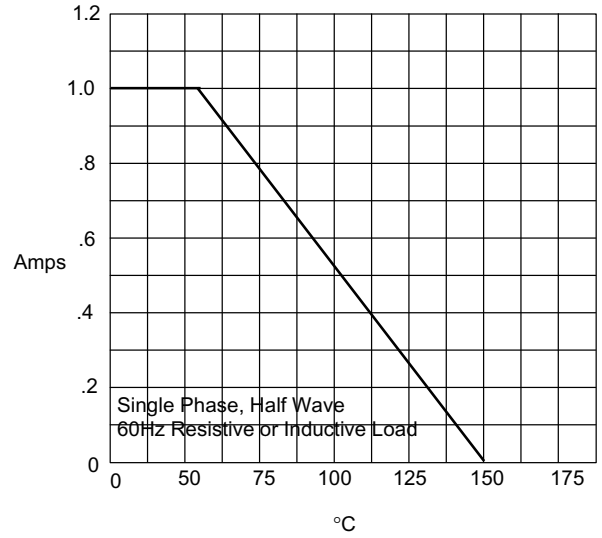
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Figure 1
Typical Forward Characteristics



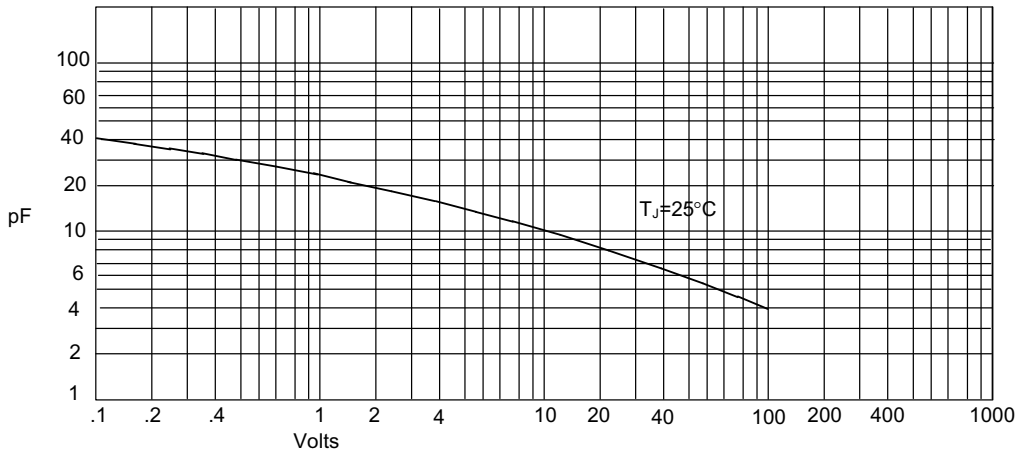
Instantaneous Forward Current - Amperes *versus*
Instantaneous Forward Voltage - Volts

Figure 2
Forward Derating Curve



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

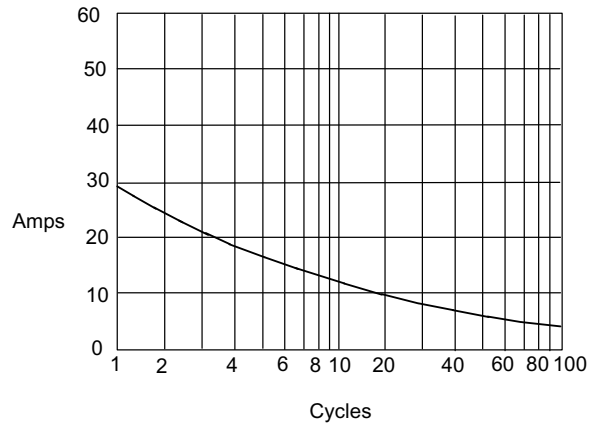
Figure 3
Junction Capacitance



Junction Capacitance - pF *versus*
Reverse Voltage - Volts

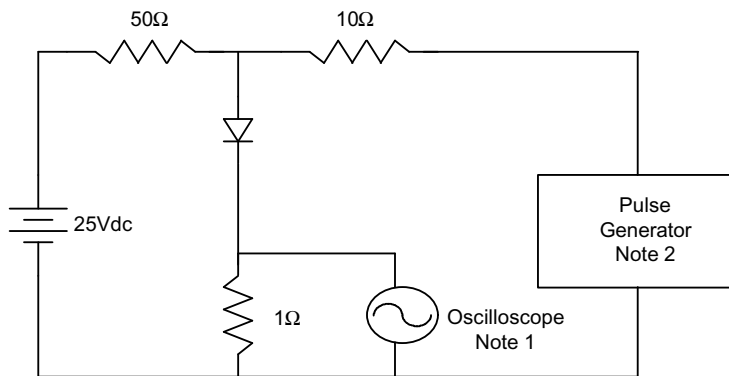
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Figure 4
Peak Forward Surge Current



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

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

