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1N4942
THRU
1N4948

1 Amp Fast Recovery Rectifier
200 to 1000 Volts

Features

- Low Leakage Current and Fast Switching
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1
- Lead Free Finish/RoHS Compliant (Note1)

Maximum Ratings

- Operating Temperature: -55°C to +150°C
- Storage Temperature: -55°C to +150°C
- Maximum Thermal Resistance; 50°C/W Junction To Ambient

Catalog Number	Device Marking	Maximum Recurrent Peak Reverse Voltage	Maximum RMS Voltage	Maximum DC Blocking Voltage
1N4942	1N4942	200V	140V	200V
1N4944	1N4944	400V	280V	400V
1N4946	1N4946	600V	420V	600V
1N4947	1N4947	800V	560V	800V
1N4948	1N4948	1000V	700V	1000V

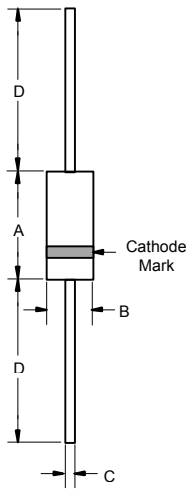
Electrical Characteristics @ 25°C Unless Otherwise Specified

Average Forward Current	$I_{F(AV)}$	1.0A	T_A =55°C
Peak Forward Surge Current	I_{FSM}	25A	8.3ms, half sine
Maximum Instantaneous Forward Voltage	V_F	1.3V	I_{FM} = 1.0A; T_A = 25°C*
Maximum DC Reverse Current At Rated DC Blocking Voltage	I_R	5.0μA 500μA	T_J = 25°C T_J = 175°C
Maximum Reverse Recovery Time 1N4942-4944 1N4946-4947 1N4948	T_{rr}	 150ns 250ns 500ns	 I_F=0.5A, I_R=1.0A, I_{rr}=0.25A
Typical Junction Capacitance	C_J	15pF	Measured at 1.0MHz, V_R=4.0V

*Pulse test: Pulse width 300 μsec, Duty cycle 2%

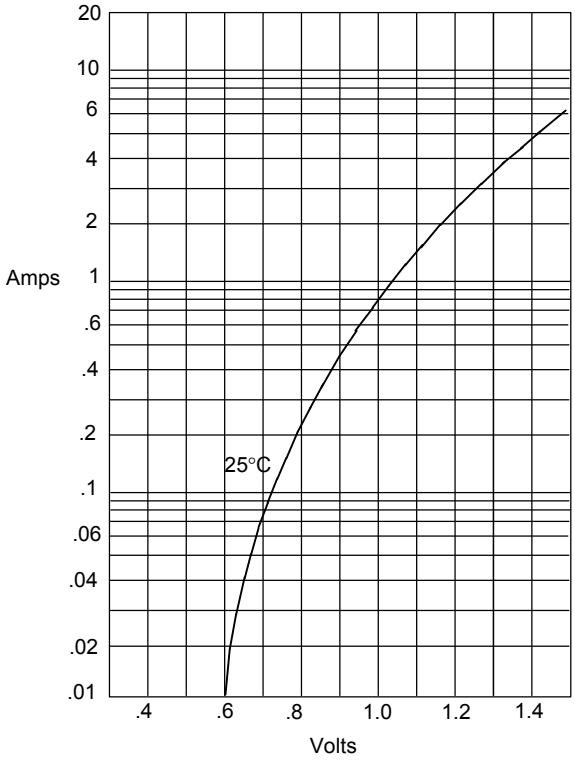
Note: 1. High Temperature Solder Exemption Applied, see EU Directive Annex 7.

DO-41



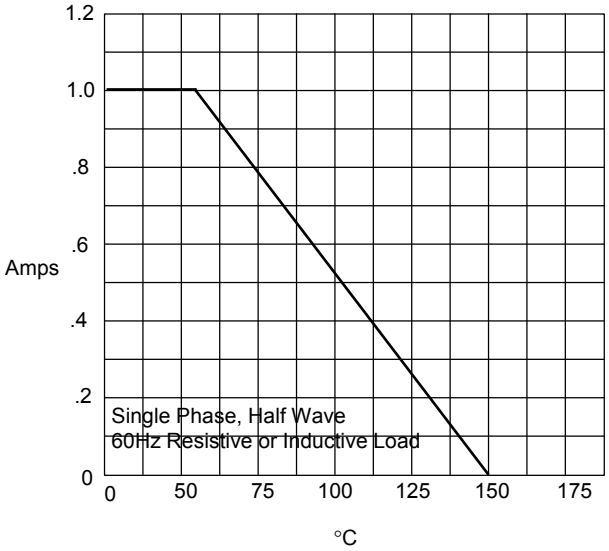
DIMENSIONS					
	INCHES		MM		
DIM	MIN	MAX	MIN	MAX	NOTE
A	.166	.205	4.10	5.20	
B	.080	.107	2.00	2.70	
C	.028	.034	.70	.90	
D	1.000	---	25.40	---	

Figure 1
Typical Forward Characteristics



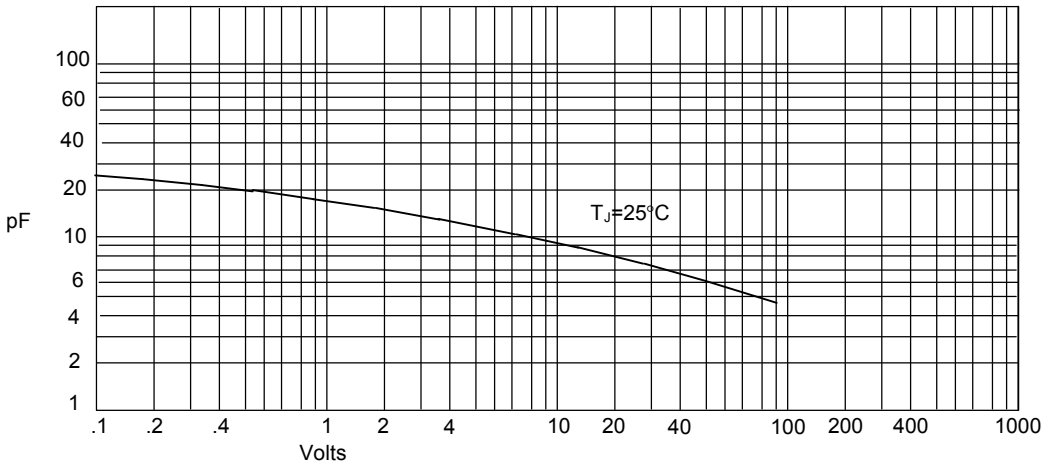
Instantaneous Forward Current - Amperes *versus*
Instantaneous Forward Voltage - Volts

Figure 2
Forward Derating Curve



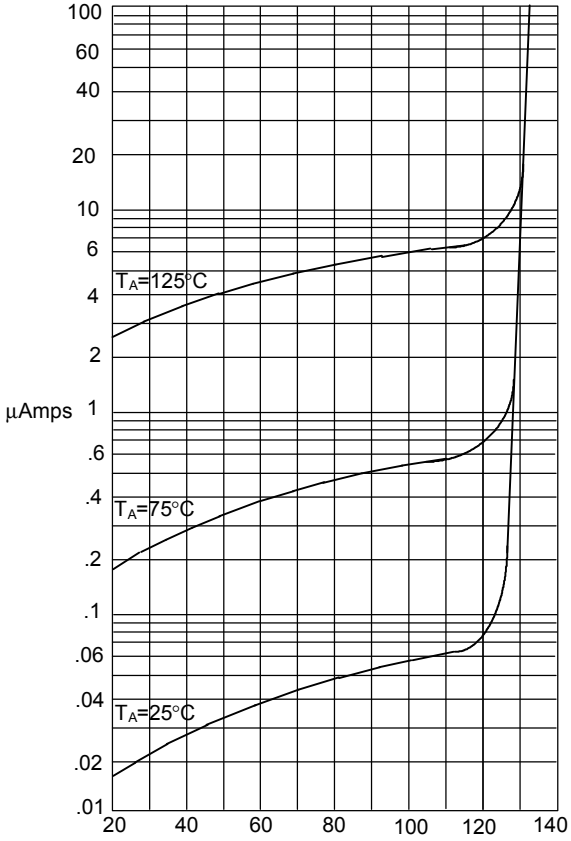
Average Forward Rectified Current - Amperes *versus*
Ambient Temperature -°C

Figure 3
Junction Capacitance



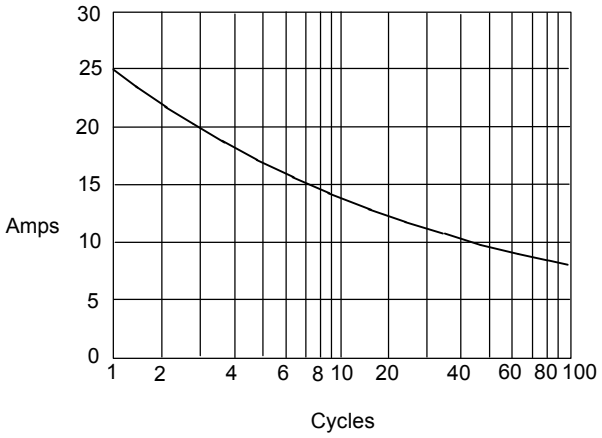
Junction Capacitance - pF *versus*
Reverse Voltage - Volts

Figure 4
Typical Reverse Characteristics



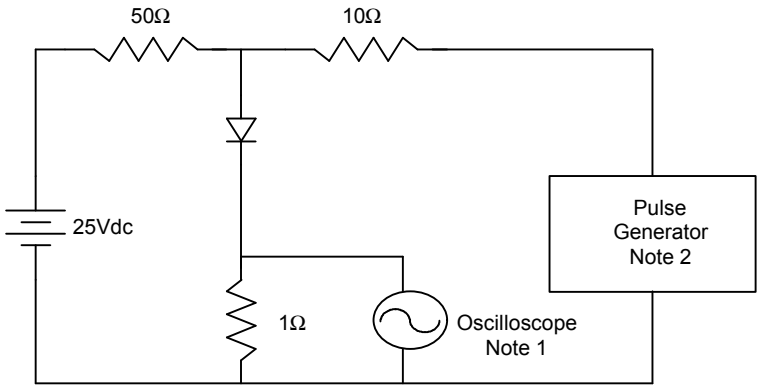
Instantaneous Reverse Leakage Current - MicroAmperes *versus*
Percent Of Rated Peak Reverse Voltage - Volts

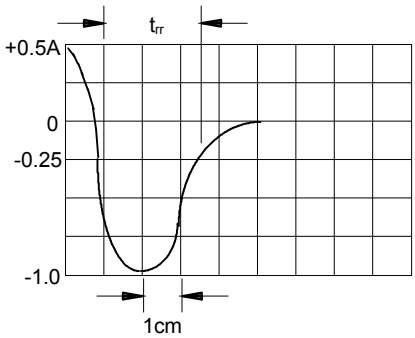
Figure 5
Non-Repetitive Peak Forward Surge Current



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

Figure 6
Reverse Recovery Time Characteristic And Test Circuit Diagram





Set Time Base for 20/100ns/cm

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