

International
IOR Rectifier

95SQ015

SCHOTTKY RECTIFIER

9 Amp

Major Ratings and Characteristics

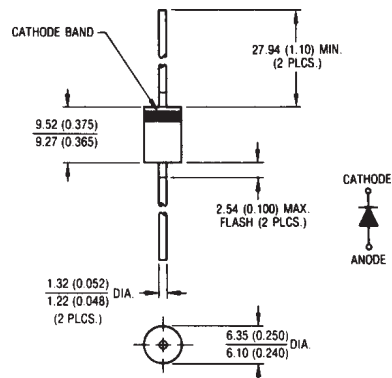
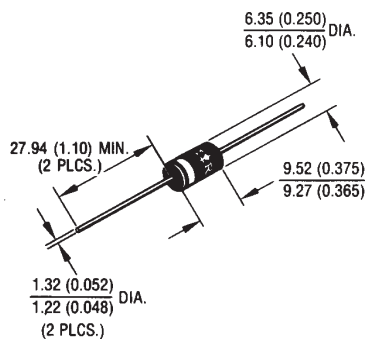
Characteristics	95SQ015	Units
$I_{F(AV)}$ Rectangular waveform	9	A
V_{RRM}	15	V
I_{FSM} @ $t_p = 5 \mu s$ sine	2900	A
V_F @ 9 Apk, $T_J = 75^\circ C$	0.25	V
T_J range	-55 to 100	$^\circ C$

Description/ Features

The 95SQ015 axial leaded Schottky rectifier has been optimized for ultra low forward voltage drop specifically for the OR-ing of parallel power supplies. The proprietary barrier technology allows for reliable operation up to $100^\circ C$ junction temperature. Typical applications are in parallel switching power supplies, converters, reverse battery protection, and redundant power subsystems.

- $125^\circ C$ T_J operation ($V_R < 5V$)
- Optimized for OR-ing applications
- Ultra low forward voltage drop
- High frequency operation
- Guard ring for enhanced ruggedness and long term reliability
- High purity, high temperature epoxy encapsulation for enhanced mechanical strength and moisture resistance
- Lead-Free plating

CASE STYLE AND DIMENSIONS



Conforms to JEDEC Outline DO - 204AR

Dimensions in millimeters and inches

Voltage Ratings

Part number	95SQ015
V_R Max. DC Reverse Voltage (V)	15
V_{RWM} Max. Working Peak Reverse Voltage (V)	25

Absolute Maximum Ratings

Parameters	95SQ	Units	Conditions
$I_{F(AV)}$ Max. Average Forward Current * See Fig. 5	9	A	50% duty cycle @ $T_C = 55^\circ\text{C}$, rectangular wave form
I_{FSM} Max. Peak One Cycle Non-Repetitive Surge Current * See Fig. 7	2900	A	5 μs Sine or 3 μs Rect. pulse
	400		10ms Sine or 6ms Rect. pulse
E_{AS} Non-Repetitive Avalanche Energy	4.50	mJ	$T_J = 25^\circ\text{C}$, $I_{AS} = 1\text{ Amps}$, $L = 9\text{ mH}$
I_{AR} Repetitive Avalanche Current	1	A	Current decaying linearly to zero in 1 μsec Frequency limited by T_J max. $V_A = 3 \times V_R$ typical

Electrical Specifications

Parameters	95SQ	Units	Conditions
V_{FM} Max. Forward Voltage Drop (1) * See Fig. 1	0.31	V	@ 9A $T_J = 25^\circ\text{C}$
	0.37	V	@ 18A $T_J = 25^\circ\text{C}$
	0.25	V	@ 9A $T_J = 75^\circ\text{C}$
	0.31	V	@ 18A $T_J = 75^\circ\text{C}$
I_{RM} Max. Reverse Leakage Current (1) * See Fig. 2	7	mA	$T_J = 25^\circ\text{C}$ $V_R = \text{rated } V_R$
	348	mA	$T_J = 100^\circ\text{C}$ $V_R = \text{rated } V_R$
	310	mA	$T_J = 100^\circ\text{C}$ $V_R = 12\text{V}$
	190	mA	$T_J = 100^\circ\text{C}$ $V_R = 5\text{V}$
C_T Max. Junction Capacitance	1300	pF	$V_R = 5V_{DC}$, (test signal range 100Khz to 1Mhz) 25°C
L_S Typical Series Inductance	10.0	nH	Measured lead to lead 5mm from body
dv/dt Max. Voltage Rate of Change (Rated V_R)	10000	V/ μs	

(1) Pulse Width < 300 μs , Duty Cycle < 2%

Thermal-Mechanical Specifications

Parameters	95SQ	Units	Conditions
T_J Max. Junction Temperature Range	-55 to 125	$^\circ\text{C}$	
T_{stg} Max. Storage Temperature Range	-55 to 150	$^\circ\text{C}$	
R_{thJL} Max. Thermal Resistance Junction to Lead	8.0	$^\circ\text{C/W}$	DC operation * See Fig. 4 1/8 inch lead length
R_{thJA} Typical Thermal Resistance, Junction to Air	44	$^\circ\text{C/W}$	
wt Approximate Weight	1.4(0.049)	g(oz.)	
Case Style	DO-204AR	JEDEC	

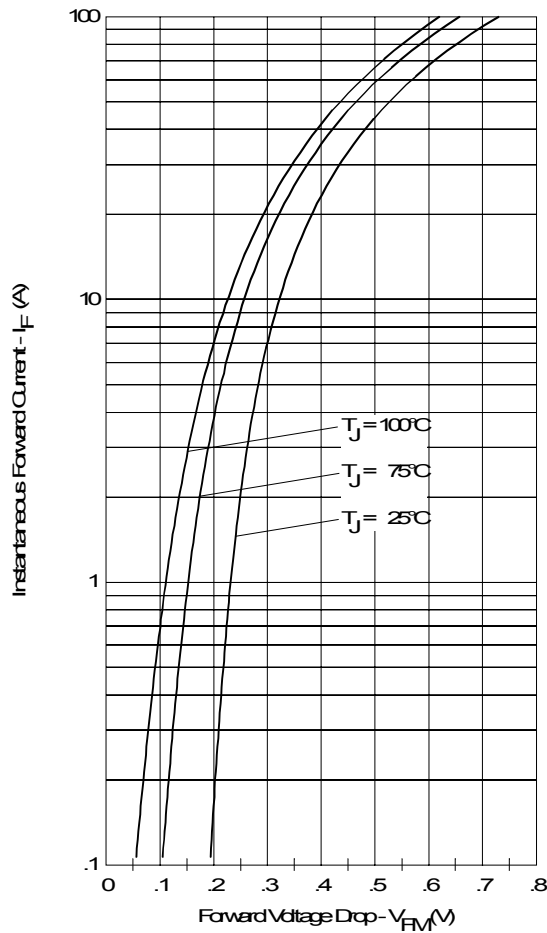


Fig. 1 - Maximum Forward Voltage Drop Characteristics

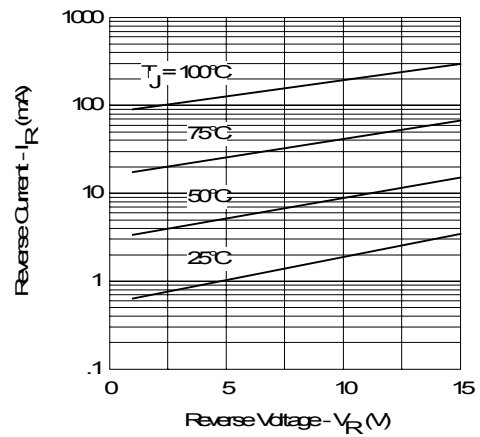


Fig. 2 - Typical Values of Reverse Current Vs. Reverse Voltage

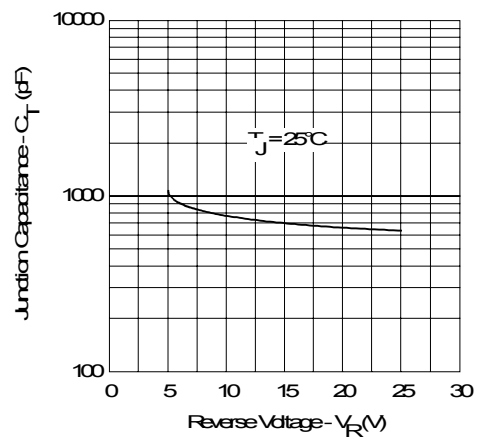


Fig. 3 - Typical Junction Capacitance Vs. Reverse Voltage

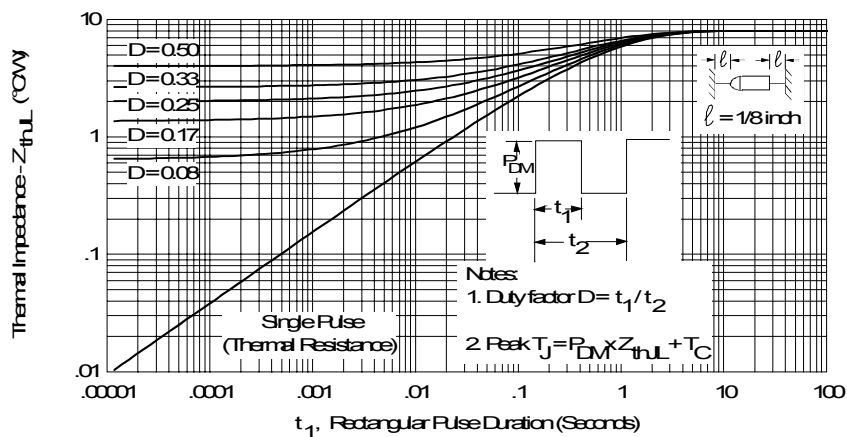


Fig. 4 - Maximum Thermal Impedance Z_{thJL} Characteristics

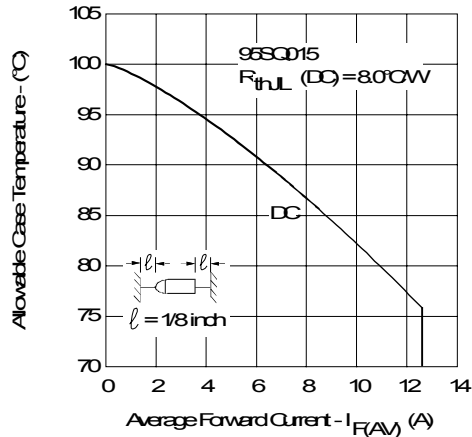


Fig. 5 - Maximum Allowable Case Temperature Vs. Average Forward Current

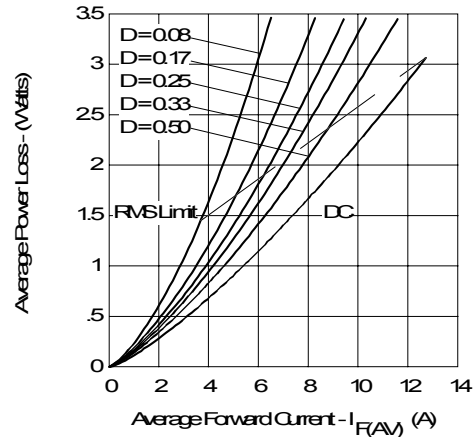


Fig. 6 - Forward Power Loss Characteristics

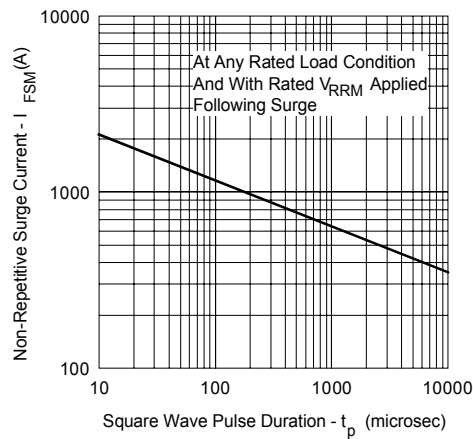


Fig. 7 - Maximum Non-Repetitive Surge Current

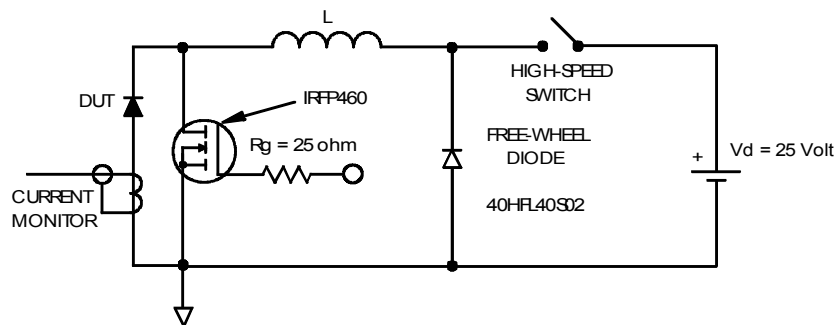


Fig. 8 - Unclamped Inductive Test Circuit

Ordering Information Table

Device Code		95	S	Q	015	TR
		1	2	3	4	5
1	-	95 = current x 10				
2	-	S = DO-204AR				
3	-	Q = Schottky Q Series				
4	-	Voltage Rating (15V)				
5	-	TR = Tape & Reel package (1500 pcs)				
	-	= Box package (200 pcs)				

Data and specifications subject to change without notice.
This product has been designed and qualified for Industrial Level and Lead-Free.
Qualification Standards can be found on IR's Web site.

International
IR Rectifier

IR WORLD HEADQUARTERS: 233 Kansas St., El Segundo, California 90245, USA Tel: (310) 252-7105
TAC Fax: (310) 252-7309
Visit us at www.irf.com for sales contact information. 06/05