

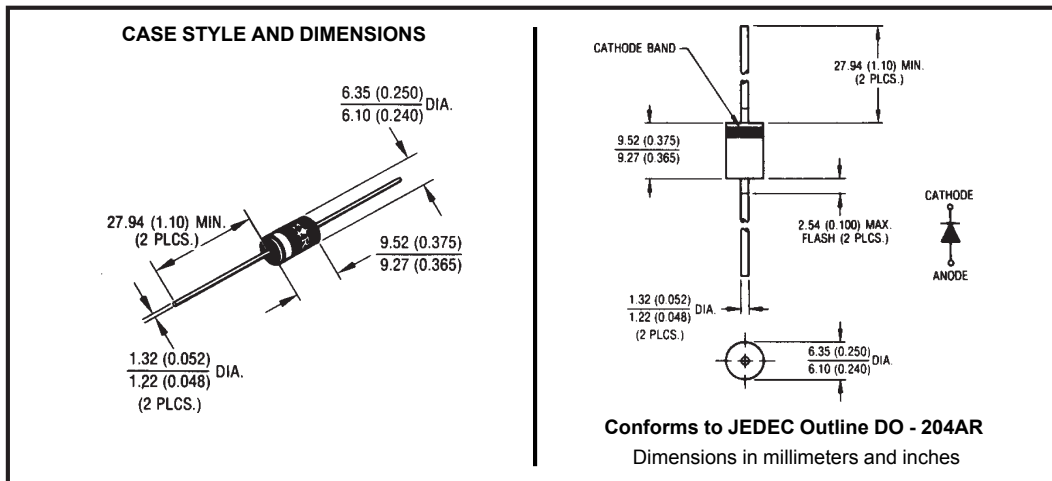
**Major Ratings and Characteristics**

Characteristics	95SQ015	Units
$I_{F(AV)}$ Rectangular waveform	9	A
$V_{RRM}$	15	V
$I_{FSM}$ @ $t_p = 5 \mu s$ sine	2900	A
$V_F$ @ 9Apk, $T_J = 75^\circ C$	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° C junction temperature. Typical applications are in parallel switching power supplies, converters, reverse battery protection, and redundant power subsystems.

- 125°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



## 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 $\mu\text{s}$ Sine or 3 $\mu\text{s}$ Rect. pulse
	400		10ms Sine or 6ms Rect. pulse
$E_{AS}$ Non-Repetitive Avalanche Energy	4.50	mJ	$T_J = 25^\circ\text{C}$ , $I_{AS} = 1$ Amps, $L = 9$ mH
$I_{AR}$ Repetitive Avalanche Current	1	A	Current decaying linearly to zero in 1 $\mu\text{sec}$ 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
	0.37	V	@ 18A
	0.25	V	@ 9A
	0.31	V	@ 18A
$I_{RM}$ Max. Reverse Leakage Current (1) * See Fig. 2	7	mA	$T_J = 25^\circ\text{C}$
	348	mA	$T_J = 100^\circ\text{C}$
	310	mA	$T_J = 100^\circ\text{C}$
	190	mA	$T_J = 100^\circ\text{C}$
$C_T$ Max. Junction Capacitance	1300	pF	$V_R = 5V_{DC}$ , (test signal range 100Khz to 1Mhz) $25^\circ\text{C}$
$L_S$ 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/ $\mu\text{s}$	

(1) Pulse Width < 300 $\mu\text{s}$ , 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	$^\circ\text{C}/\text{W}$	DC operation * See Fig. 4 1/8 inch lead length
$R_{thJA}$ Typical Thermal Resistance, Junction to Air	44	$^\circ\text{C}/\text{W}$	
wt Approximate Weight	1.4(0.049)	g(oz.)	
Case Style	DO-204AR	JEDEC	

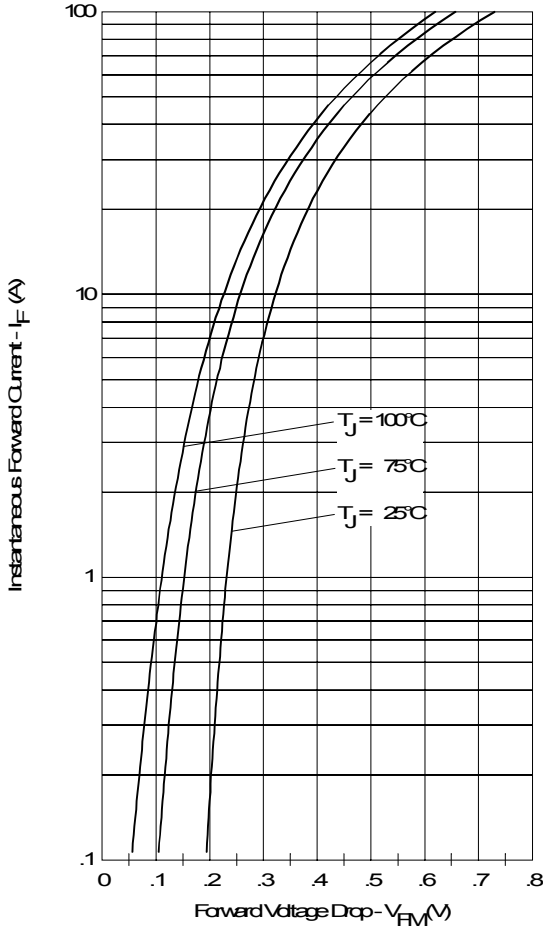


Fig. 1 - Maximum Forward Voltage Drop Characteristics

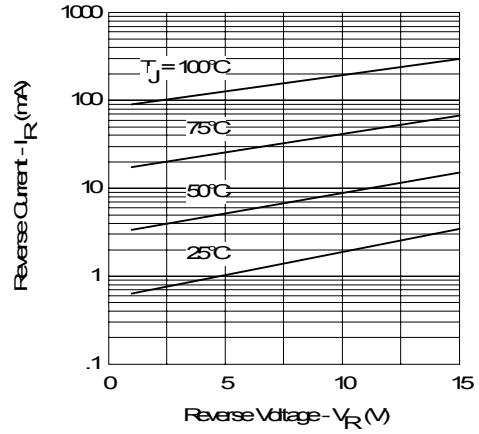


Fig. 2 - Typical Values of Reverse Current Vs. Reverse Voltage

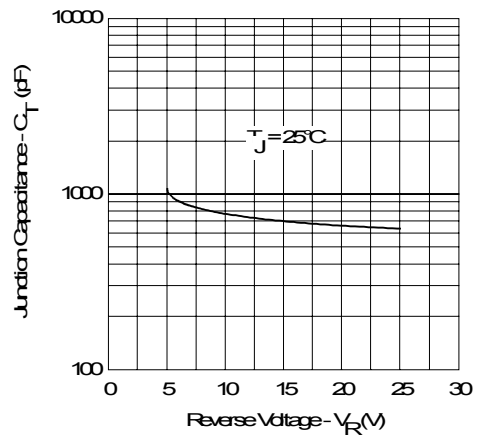


Fig. 3 - Typical Junction Capacitance Vs. Reverse Voltage

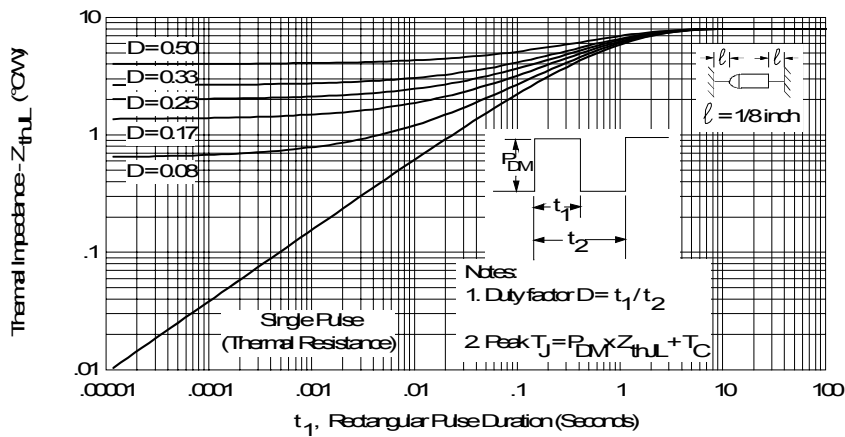


Fig. 4 - Maximum Thermal Impedance  $Z_{thL}$  Characteristics

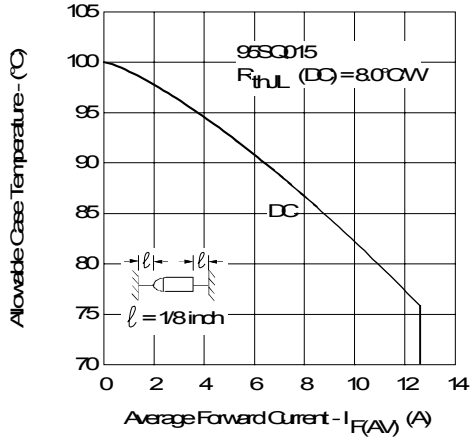


Fig. 5 - Maximum Allowable Case Temperature Vs. Average Forward Current

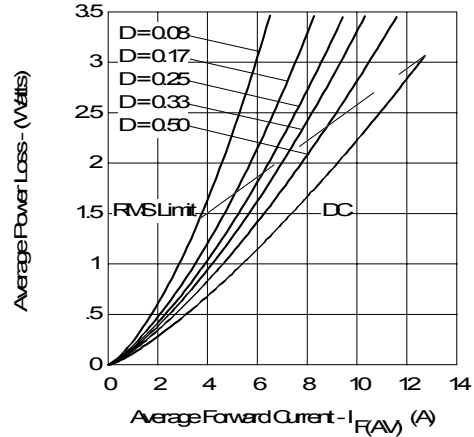


Fig. 6 - Forward Power Loss Characteristics

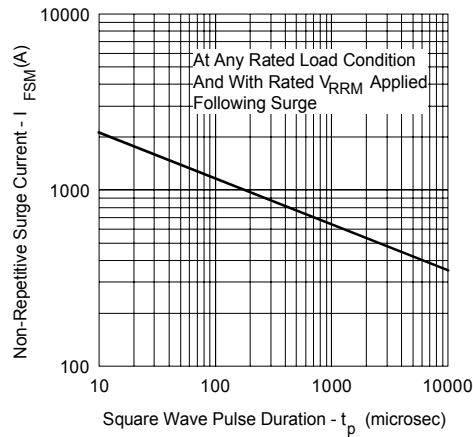


Fig. 7 - Maximum Non-Repetitive Surge Current

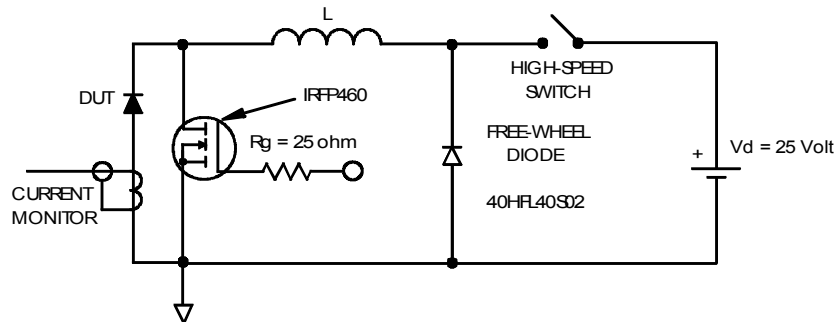


Fig. 8 - Unclamped Inductive Test Circuit

### Ordering Information Table

Device Code	
<b>95</b>	<b>S</b>
<b>Q</b>	<b>015</b>
<b>TR</b>	
1	2
3	4
5	

<b>1</b>	-	95 = current x 10
<b>2</b>	-	S = DO-204AR
<b>3</b>	-	Q = Schottky Q Series
<b>4</b>	-	Voltage Rating (15V)
<b>5</b>	-	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.