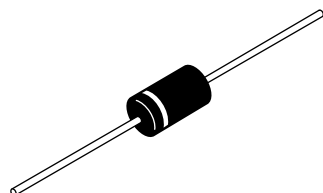


Schottky Rectifier, 9 A


DO-204AR


FEATURES

- 125 °C T_J operation ($V_R < 5\text{ V}$)
- Optimized for OR-ing applications
- Ultralow 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 (Pb)-free plating
- Designed and qualified for industrial level


RoHS
COMPLIANT

PRODUCT SUMMARY

$I_{F(AV)}$	9 A
V_R	15 V
I_{RM}	348 mA at 100 °C

DESCRIPTION

The 95SQ015 axial leaded Schottky rectifier has been optimized for ultralow 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.

MAJOR RATINGS AND CHARACTERISTICS

SYMBOL	CHARACTERISTICS	VALUES	UNITS
$I_{F(AV)}$	Rectangular waveform	9	A
V_{RRM}		15	V
I_{FSM}	$t_p = 5\text{ }\mu\text{s}$ sine	2900	A
V_F	9 Apk, $T_J = 75\text{ }^\circ\text{C}$	0.25	V
T_J	Range	- 55 to 100	°C

VOLTAGE RATINGS

PARAMETER	SYMBOL	95SQ015	UNITS
Maximum DC reverse voltage	V_R	15	V
Maximum working peak reverse voltage	V_{RWM}	25	

ABSOLUTE MAXIMUM RATINGS

PARAMETER	SYMBOL	TEST CONDITIONS	VALUES	UNITS
Maximum average forward current See fig. 5	$I_{F(AV)}$	50 % duty cycle at $T_C = 55\text{ }^\circ\text{C}$, rectangular waveform	9	A
Maximum peak one cycle non-repetitive surge current See fig. 7	I_{FSM}	5 μs sine or 3 μs rect. pulse	2900	
		10 ms sine or 6 ms rect. pulse	400	
Non-repetitive avalanche energy	E_{AS}	$T_J = 25\text{ }^\circ\text{C}$, $I_{AS} = 1\text{ A}$, $L = 9\text{ mH}$	4.5	mJ
Repetitive avalanche current	I_{AR}	Current decaying linearly to zero in 1 μs Frequency limited by, T_J maximum $V_A = 3 \times V_R$ typical	1	A

ELECTRICAL SPECIFICATIONS						
PARAMETER	SYMBOL	TEST CONDITIONS		VALUES	UNITS	
Maximum forward voltage drop See fig. 1	$V_{FM}^{(1)}$	9 A	$T_J = 25\text{ }^{\circ}\text{C}$	0.31	V	
		18 A		0.37		
		9 A	$T_J = 75\text{ }^{\circ}\text{C}$	0.25		0.31
		18 A				
Maximum reverse leakage current See fig. 2	$I_{RM}^{(1)}$	$T_J = 100\text{ }^{\circ}\text{C}$	$V_R = 12\text{ V}$	310	mA	
			$V_R = 5\text{ V}$	190		
		$T_J = 25\text{ }^{\circ}\text{C}$	$V_R = \text{Rated } V_R$	7		348
		$T_J = 100\text{ }^{\circ}\text{C}$				
Maximum junction capacitance	C_T	$V_R = 5\text{ V}_{DC}$, (test signal range 100 kHz to 1 MHz) $25\text{ }^{\circ}\text{C}$		1300	pF	
Typical series inductance	L_S	Measured lead to lead 5 mm from body		10.0	nH	
Maximum voltage rate of change	dV/dt	Rated V_R		10 000	V/ μ s	

Note(1) Pulse width < 300 μ s, duty cycle < 2 %

THERMAL - MECHANICAL SPECIFICATIONS				
PARAMETER	SYMBOL	TEST CONDITIONS	VALUES	UNITS
Maximum junction temperature range	T_J		- 55 to 125	$^{\circ}\text{C}$
Maximum storage temperature range	T_{Stg}		- 55 to 150	
Maximum thermal resistance, junction to lead	R_{thJL}	DC operation; see fig. 4 1/8" lead length	8.0	$^{\circ}\text{C/W}$
Typical thermal resistance, junction to air	R_{thJA}		44	
Approximate weight			1.4	g
			0.049	oz.
Marking device		Case style DO-204AR (JEDEC)	95SQ015	

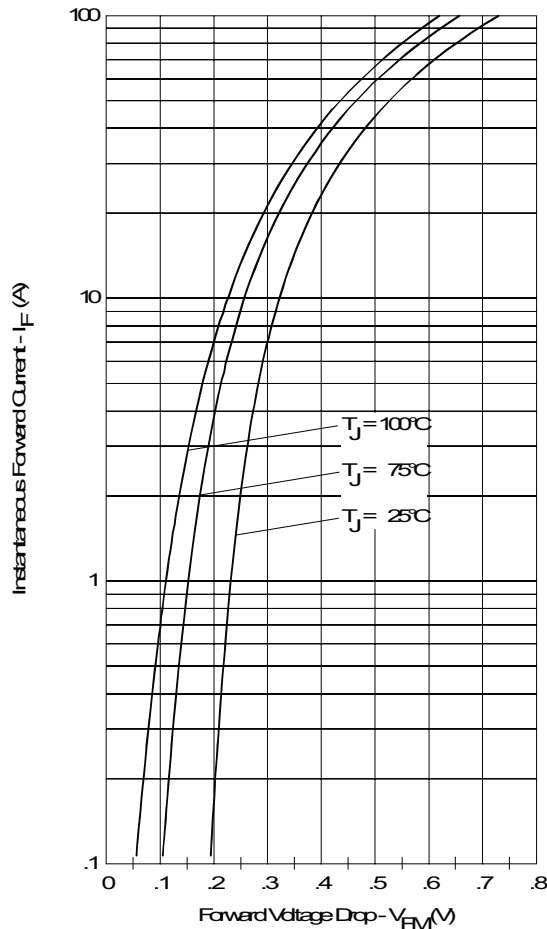


Fig. 1 - Maximum Forward Voltage Drop Characteristics

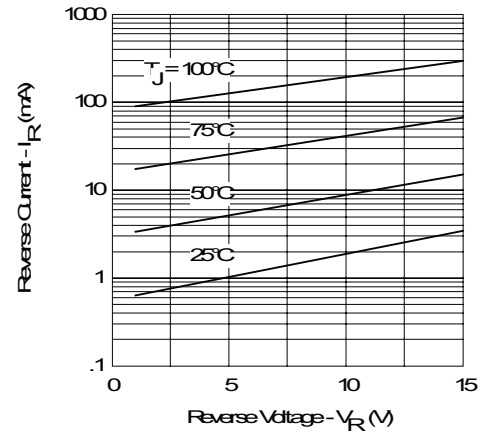


Fig. 2 - Typical Values of Reverse Current vs. Reverse Voltage

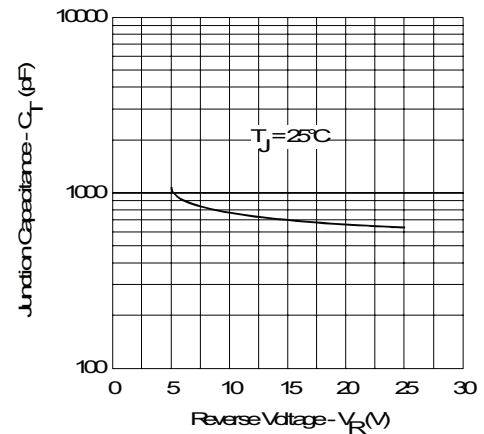
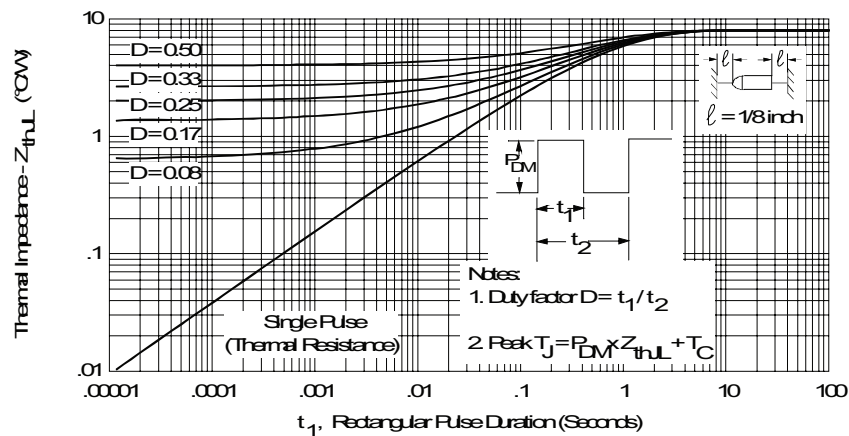


Fig. 3 - Typical Junction Capacitance vs. Reverse Voltage


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

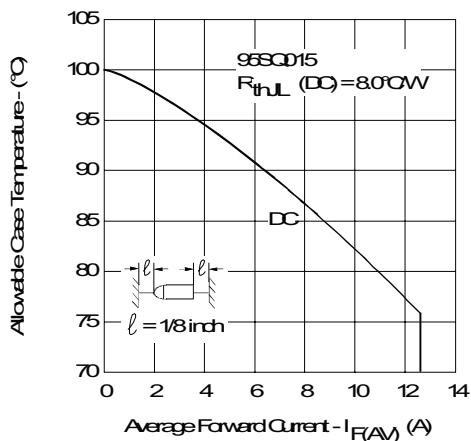


Fig. 5 - Maximum Allowable Case Temperature vs. Average Forward Current

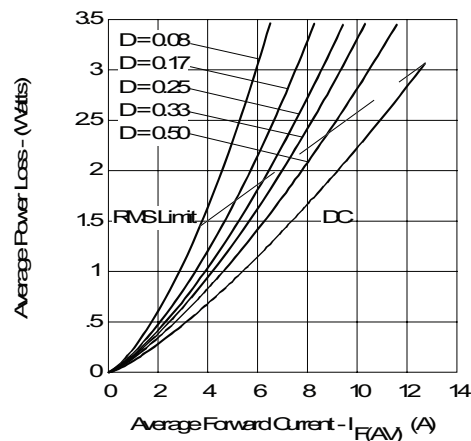


Fig. 6 - Forward Power Loss Characteristics

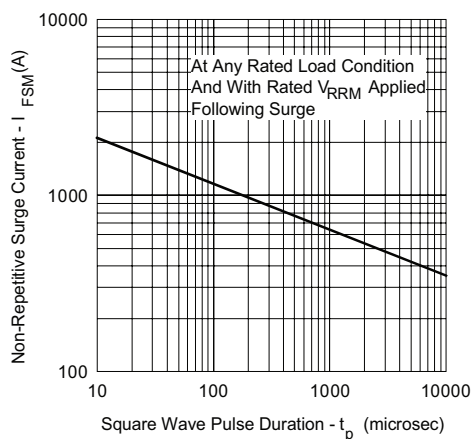


Fig. 7 - Maximum Non-Repetitive Surge Current

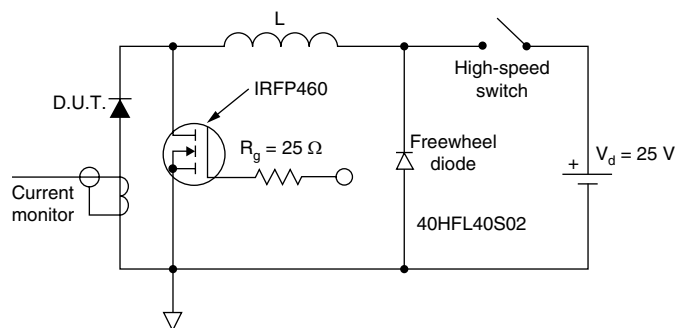


Fig. 8 - Unclamped Inductive Test Circuit

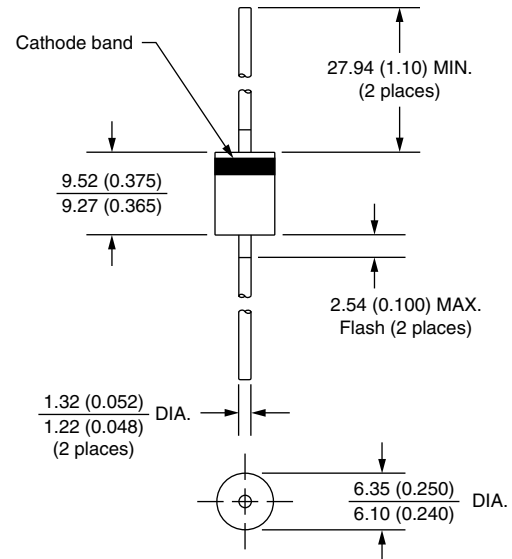
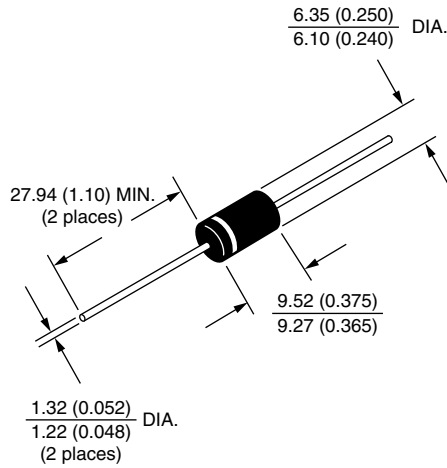
**ORDERING INFORMATION TABLE**

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 (015 = 15 V)		
	5	-	• TR = Tape and reel package (1500 pcs)		
			• None = Box package (300 pcs)		

LINKS TO RELATED DOCUMENTS	
Dimensions	http://www.vishay.com/doc?95243
Part marking information	http://www.vishay.com/doc?95325
Packaging information	http://www.vishay.com/doc?95332

Axial DO-204AR

DIMENSIONS in millimeters (inches)





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