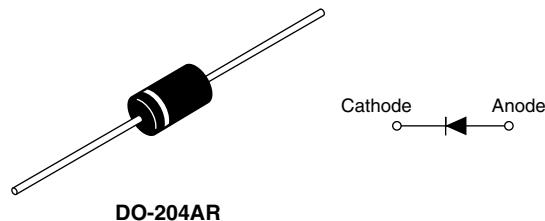


Schottky Rectifier, 9 A



DO-204AR

FEATURES

- 125 °C T_J operation ($V_R < 5$ 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}	$t_p = 5$ µs sine	2900	A
V_F	9 Apk, $T_J = 75$ °C	0.25	V
T_J	Range	- 55 to 100	°C

VOLTAGE RATINGS

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

ABSOLUTE MAXIMUM RATINGS

PARAMETER	SYMBOL	TEST CONDITIONS	VALUES	UNITS
Maximum average forward current See fig. 5	$I_{F(AV)}$	50 % duty cycle at $T_C = 55$ °C, rectangular waveform	9	
Maximum peak one cycle non-repetitive surge current See fig. 7	I_{FSM}	5 µs sine or 3 µs rect. pulse	2900	A
		10 ms sine or 6 ms rect. pulse	400	
Non-repetitive avalanche energy	E_{AS}	$T_J = 25$ °C, $I_{AS} = 1$ A, $L = 9$ 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 °C	0.31	V	
		18 A		0.37		
		9 A	T _J = 75 °C	0.25		
		18 A		0.31		
Maximum reverse leakage current See fig. 2	I _{RM} ⁽¹⁾	T _J = 100 °C	V _R = 12 V	310	mA	
			V _R = 5 V	190		
		T _J = 25 °C	V _R = Rated V _R	7		
		T _J = 100 °C		348		
Maximum junction capacitance	C _T	V _R = 5 V _{DC} , (test signal range 100 kHz to 1 MHz) 25 °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/μs	

Note

(1) Pulse width < 300 μs, duty cycle < 2 %

THERMAL - MECHANICAL SPECIFICATIONS

PARAMETER	SYMBOL	TEST CONDITIONS	VALUES	UNITS
Maximum junction temperature range	T _J		- 55 to 125	°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	°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	

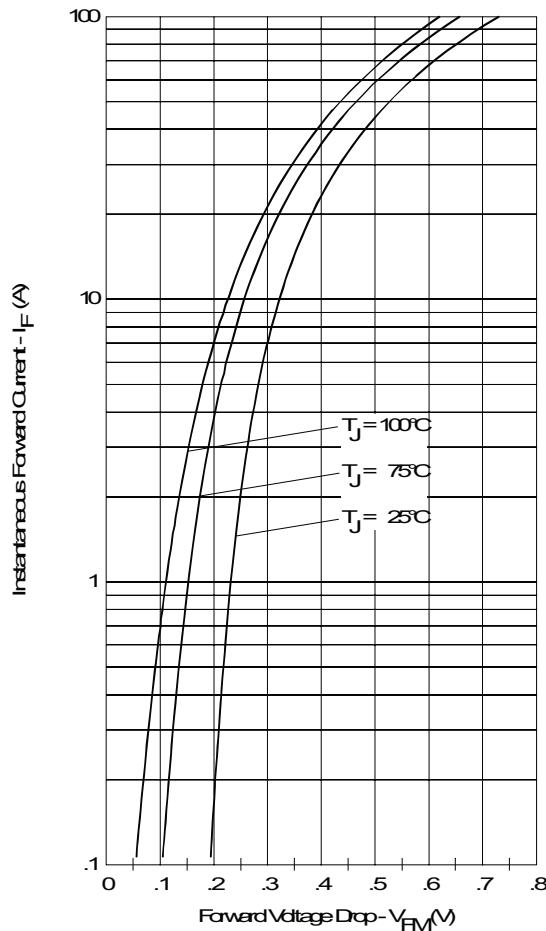


Fig. 1 - Maximum Forward Voltage Drop Characteristics

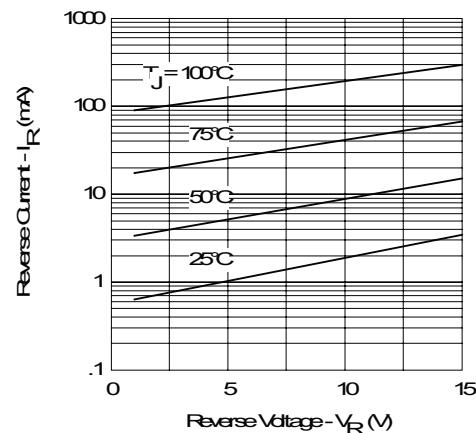


Fig. 2 - Typical Values of Reverse Current vs. Reverse Voltage

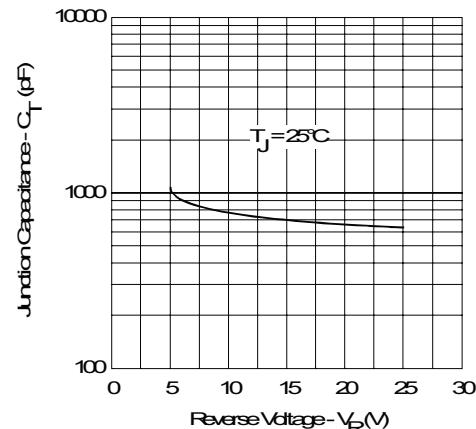


Fig. 3 - Typical Junction Capacitance vs. Reverse Voltage

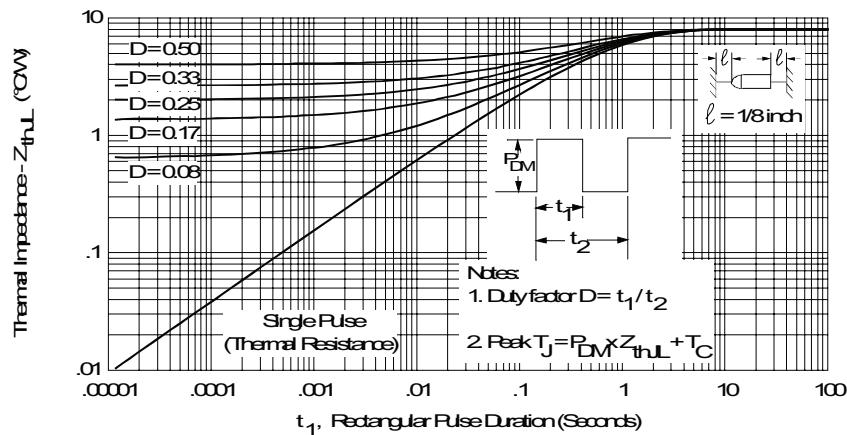


Fig. 4 - Maximum Thermal Impedance Z_{thL} Characteristics

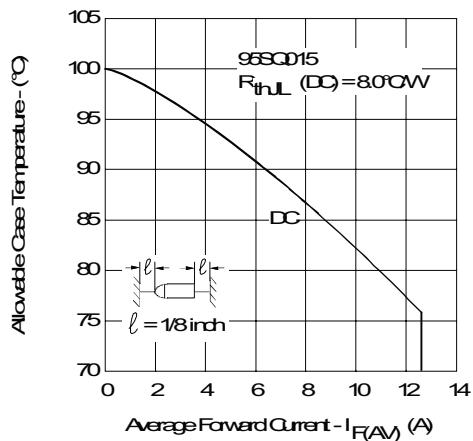


Fig. 5 - Maximum Allowable Case Temperature vs. Average Forward Current

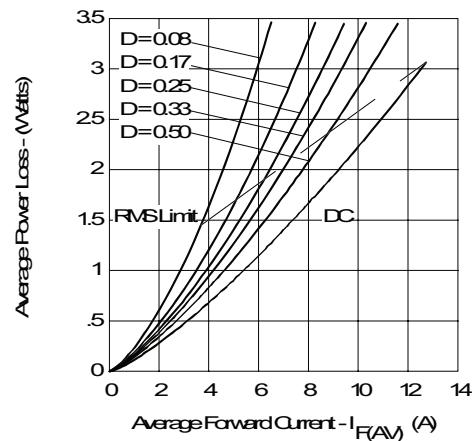


Fig. 6 - Forward Power Loss Characteristics

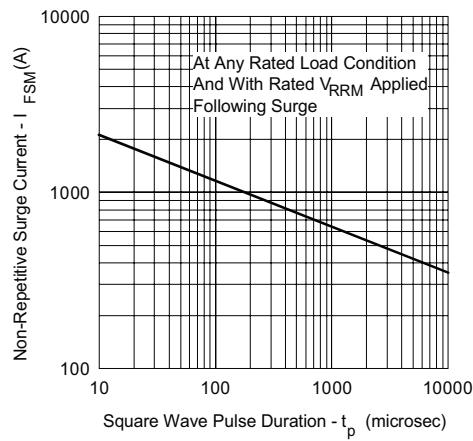


Fig. 7 - Maximum Non-Repetitive Surge Current

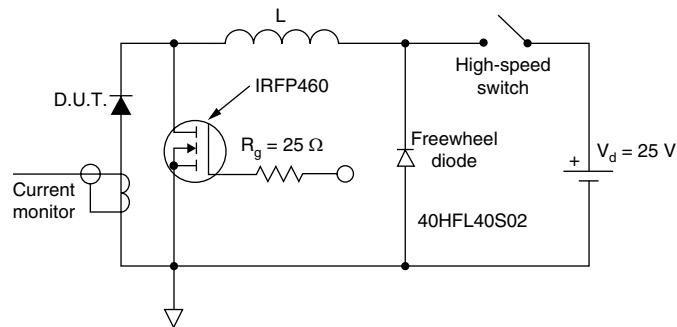
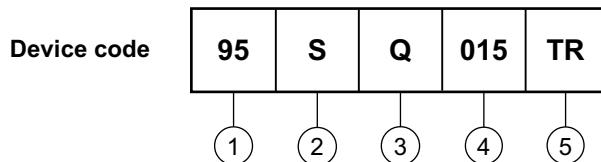


Fig. 8 - Unclamped Inductive Test Circuit

ORDERING INFORMATION TABLE

- [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

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