TOP ONE SEMI CONDUCTOR

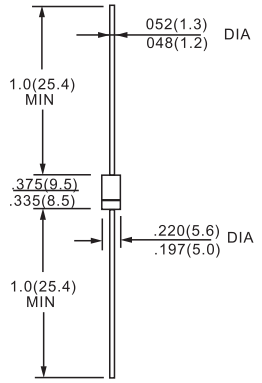
SCHOTTKY RECTIFIER

95SQ015

15V 9.0A

FEATURES

- 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



Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

VOLTAGE RATINGS				
PARAMETER	**SYMBOL**	**VS-95SQ015**	**VS-95SQ015-M3**	**UNITS**
Maximum DC reverse voltage	V_R	15	15	V
Maximum working peak reverse voltage	V_{RWM}			

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	A
Maximum peak one cycle non-repetitive surge current See fig. 7	I_{FSM}	5 µs sine or 3 µs rect. pulse	Following any rated load condition and with rated V_{RRM} applied	2900	
		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 x 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

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	

RATINGS AND CHARACTERISTIC CURVES 95SQ015

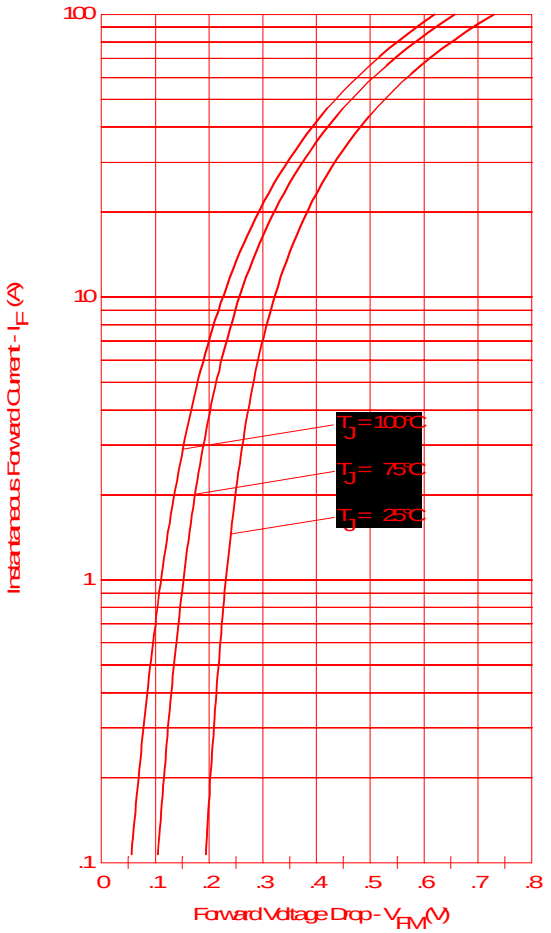


Fig. 1 - Maximum Forward Voltage Drop Characteristics

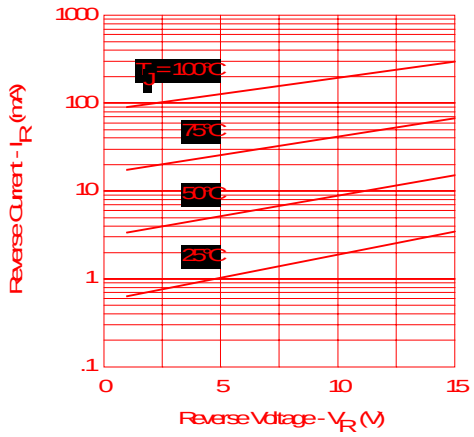


Fig. 2 - Typical Values of Reverse Current Vs. Reverse Voltage

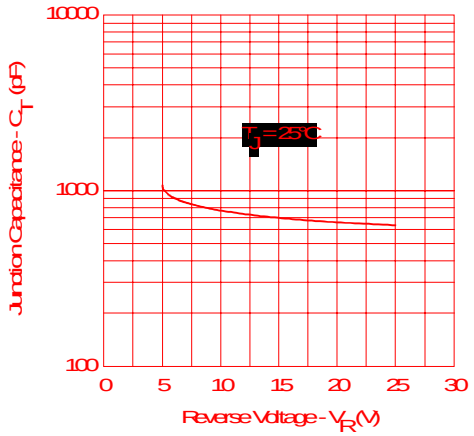


Fig. 3 - Typical Junction Capacitance Vs. Reverse Voltage

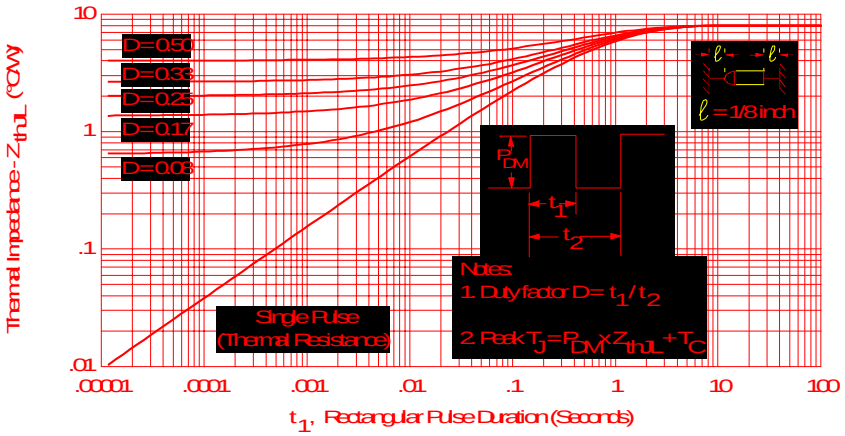


Fig. 4 - Maximum Thermal Impedance Z_{thJL} Characteristics

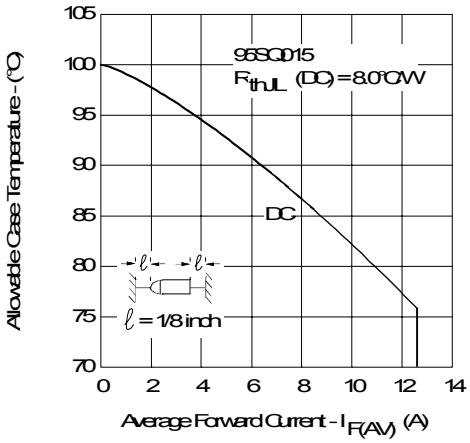


Fig. 5 - Maximum Allowable Case Temperature Vs. Average Forward Current

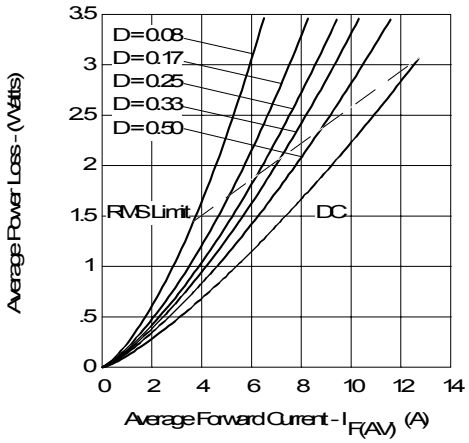


Fig. 6 - Forward Power Loss Characteristics

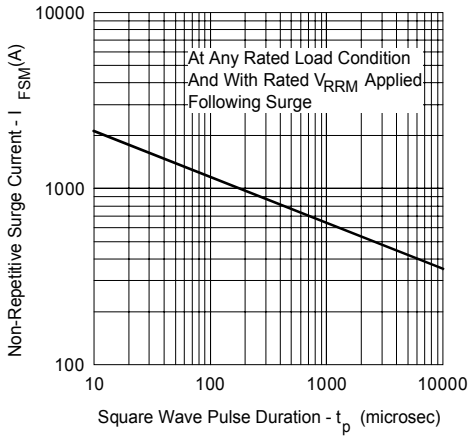


Fig. 7 - Maximum Non-Repetitive Surge Current

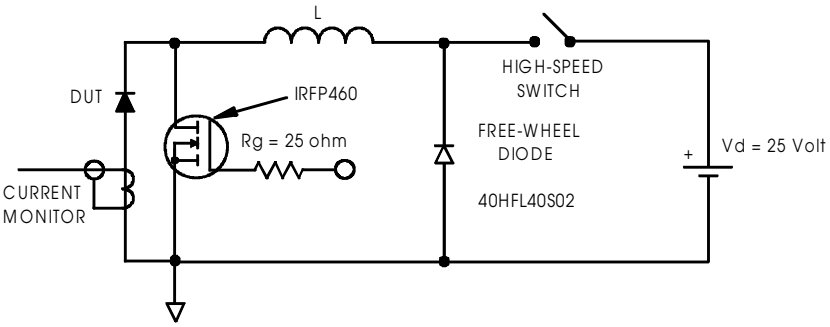


Fig. 8 - Unclamped Inductive Test Circuit