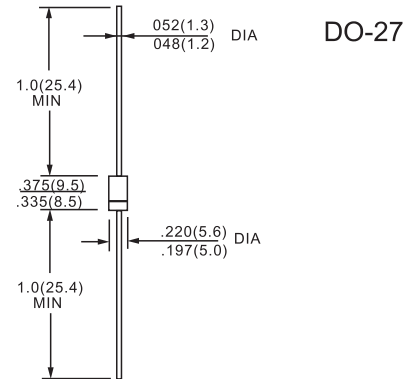


FEATURES

- 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	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
		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
		T _J = 25 °C	V _R = 5 V	190
		T _J = 100 °C	V _R = Rated V _R	7
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

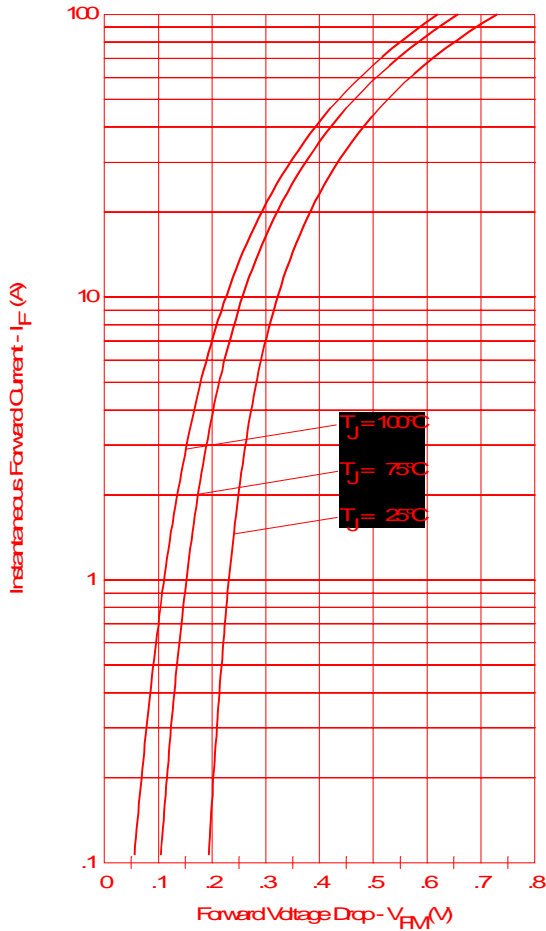


Fig. 1 - Maximum Forward Voltage Drop Characteristics

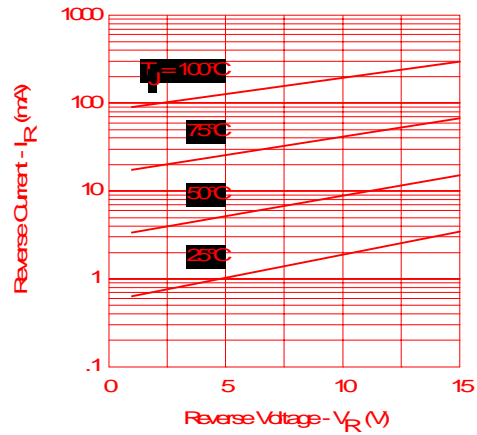


Fig. 2 - Typical Values of Reverse Current Vs. Reverse Voltage

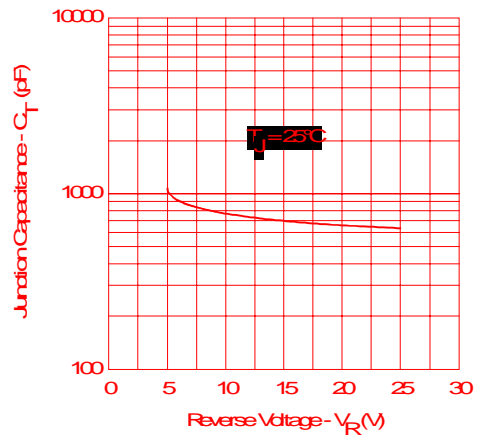


Fig. 3 - Typical Junction Capacitance Vs. Reverse Voltage

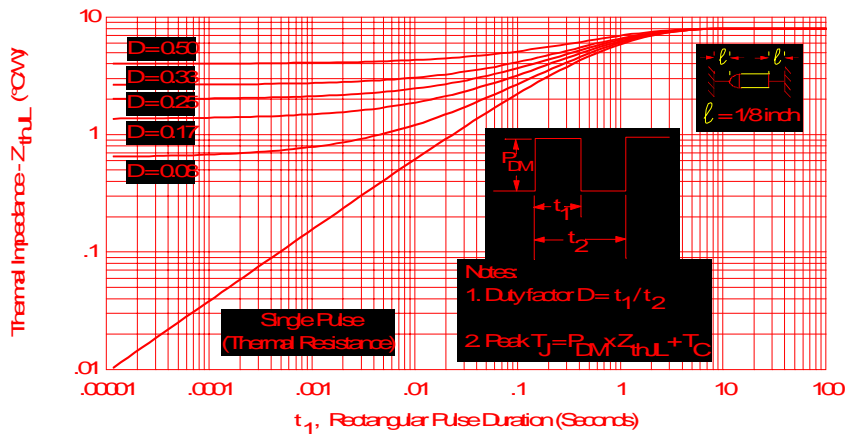


Fig. 4 - Maximum Thermal Impedance Z_{thL} Characteristics

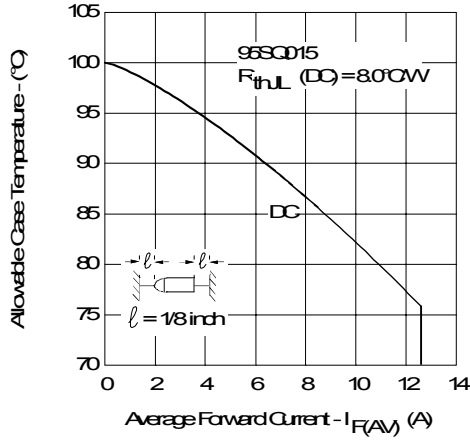


Fig. 5 - Maximum Allowable Case Temperature Vs. Average Forward Current

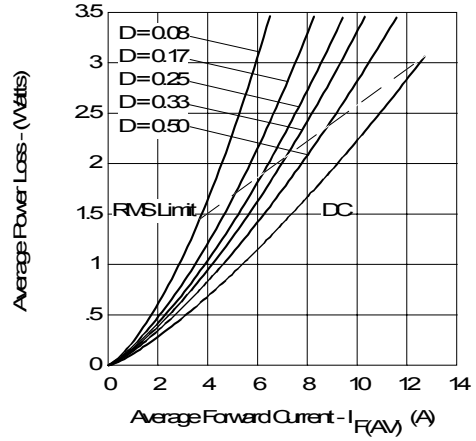


Fig. 6 - Forward Power Loss Characteristics

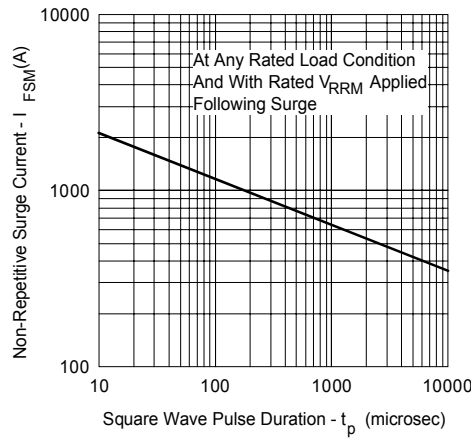


Fig. 7 - Maximum Non-Repetitive Surge Current

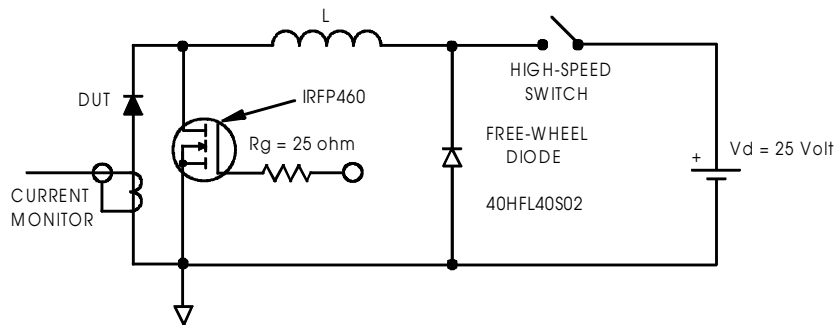


Fig. 8 - Unclamped Inductive Test Circuit