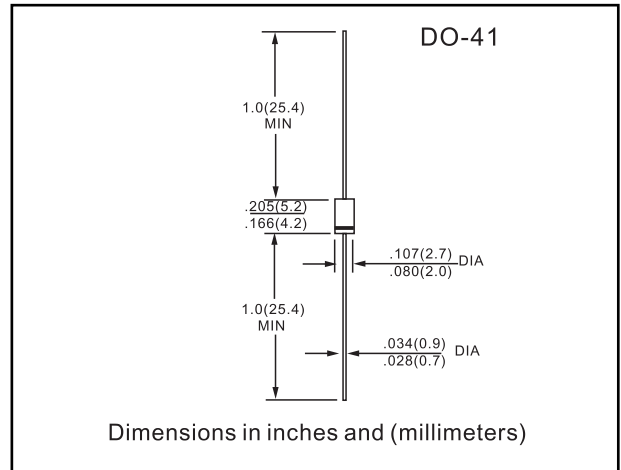


**FEATURES**

- Low profile, axial leaded outline
- High frequency operation
- Very low forward voltage drop
- High purity, high temperature epoxy encapsulation for enhanced mechanical strength and moisture resistance
- Guard ring for enhanced ruggedness and long term reliability
- Lead (Pb)-free plating
- Designed and qualified for industrial level



**MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS**

ABSOLUTE MAXIMUM RATINGS					
PARAMETER	SYMBOL	TEST CONDITIONS		VALUES	UNITS
Maximum average forward current See fig. 4	$I_{F(AV)}$	50 % duty cycle at $T_C = 112\text{ }^\circ\text{C}$ , rectangular waveform		2	A
Maximum peak one cycle non-repetitive surge current See fig. 6	$I_{FSM}$	5 $\mu\text{s}$ sine or 3 $\mu\text{s}$ rect. pulse	Following any rated load condition and with rated $V_{RRM}$ applied	420	
		10 ms sine or 6 ms rect. pulse		70	
Non-repetitive avalanche energy	$E_{AS}$	$T_J = 25\text{ }^\circ\text{C}$ , $I_{AS} = 1.0\text{ A}$ , $L = 10\text{ mH}$		5.0	mJ
Repetitive avalanche current	$I_{AR}$	Current decaying linearly to zero in 1 $\mu\text{s}$ Frequency limited by $T_J$ maximum $V_A = 1.5 \times V_R$ typical		1.0	A

ELECTRICAL SPECIFICATIONS						
PARAMETER	SYMBOL	TEST CONDITIONS		VALUES		UNITS
				TYP.	MAX.	
Maximum forward voltage drop	$V_{FM}^{(1)}$	2 A	$T_J = 25\text{ }^\circ\text{C}$	0.49	0.55	V
		4 A		0.60	0.65	
		2 A	$T_J = 125\text{ }^\circ\text{C}$	0.42	0.5	
		4 A		0.56	0.62	
Maximum reverse leakage current	$I_{RM}^{(1)}$	$T_J = 25\text{ }^\circ\text{C}$	$V_R = \text{Rated } V_R$	0.01	0.50	mA
		$T_J = 125\text{ }^\circ\text{C}$		5.2	10	
Typical junction capacitance	$C_T$	$V_R = 5\text{ V}_{DC}$ (test signal range 100 kHz to 1 MHz) $25\text{ }^\circ\text{C}$		130		pF
Typical series inductance	$L_S$	Measured lead to lead 5 mm from package body		8.0		nH

THERMAL - MECHANICAL SPECIFICATIONS					
PARAMETER	SYMBOL	TEST CONDITIONS		VALUES	UNITS
Maximum junction and storage temperature range	$T_J^{(1)}, T_{Stg}$			- 40 to 150	$^\circ\text{C}$
Maximum thermal resistance, junction to ambient	$R_{thJA}$	DC operation Without cooling fin		100	$^\circ\text{C}/\text{W}$
Typical thermal resistance, junction to lead	$R_{thJL}$	DC operation See fig. 4		25	
Approximate weight				0.33	g
				0.012	oz.
Marking device		Case style DO-204AL (D-41)		21DQ04	

**Note**

(1)  $\frac{dP_{tot}}{dT_J} < \frac{1}{R_{thJA}}$  thermal runaway condition for a diode on its own heatsink



RATINGS AND CHARACTERISTIC CURVES

21DQ04

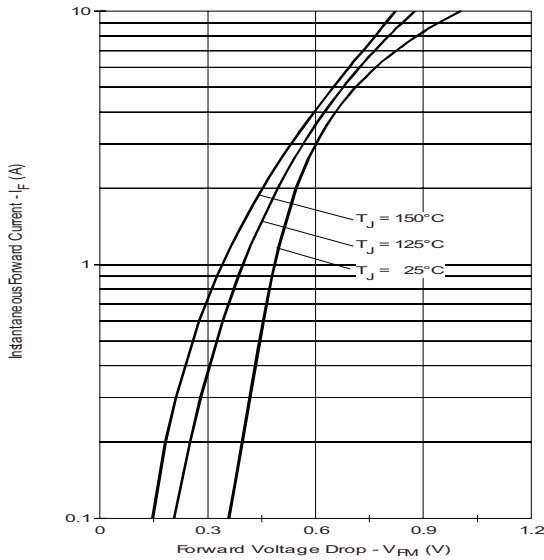


Fig. 1 - Maximum Forward Voltage Drop Characteristics

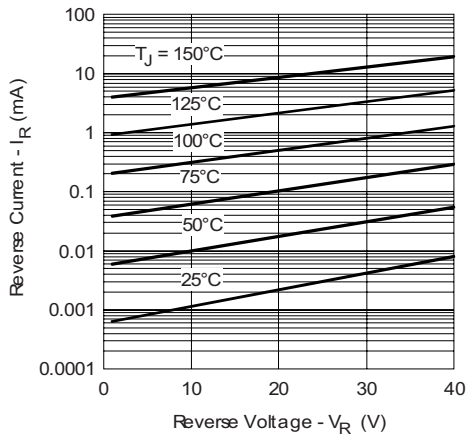


Fig. 2 - Typical Values of Reverse Current vs. Reverse Voltage

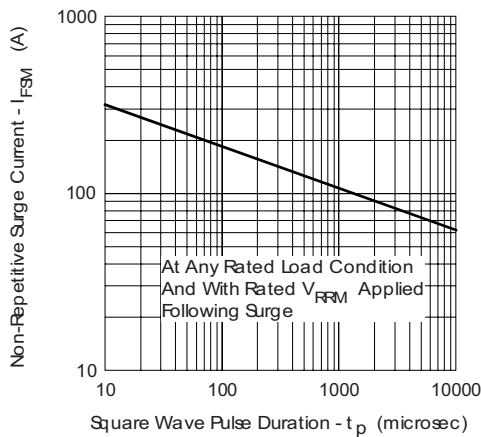


Fig. 6 - Maximum Non-Repetitive Surge Current

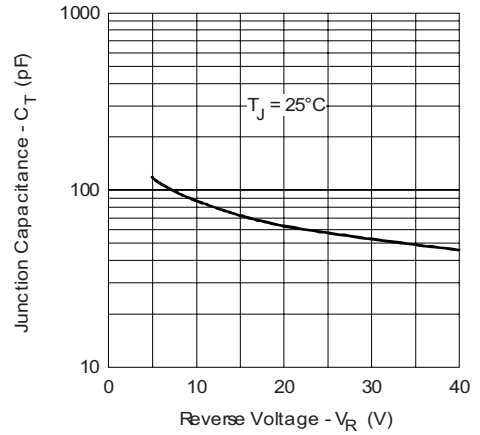


Fig. 3 - Typical Junction Capacitance vs. Reverse Voltage

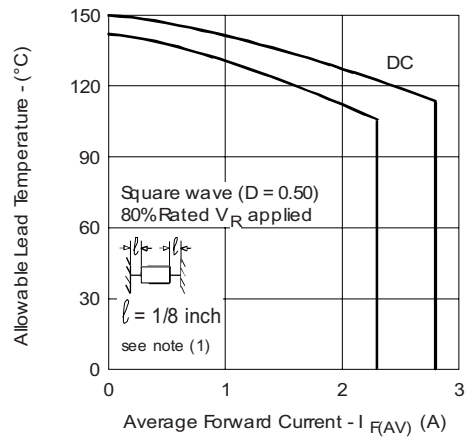


Fig. 4 - Maximum Allowable Lead Temperature vs. Average Forward Current

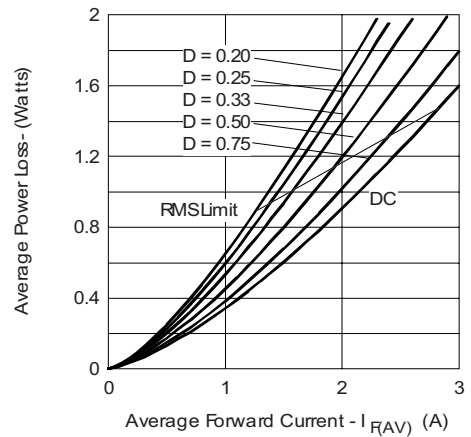


Fig. 5 - Forward Power Loss Characteristics