

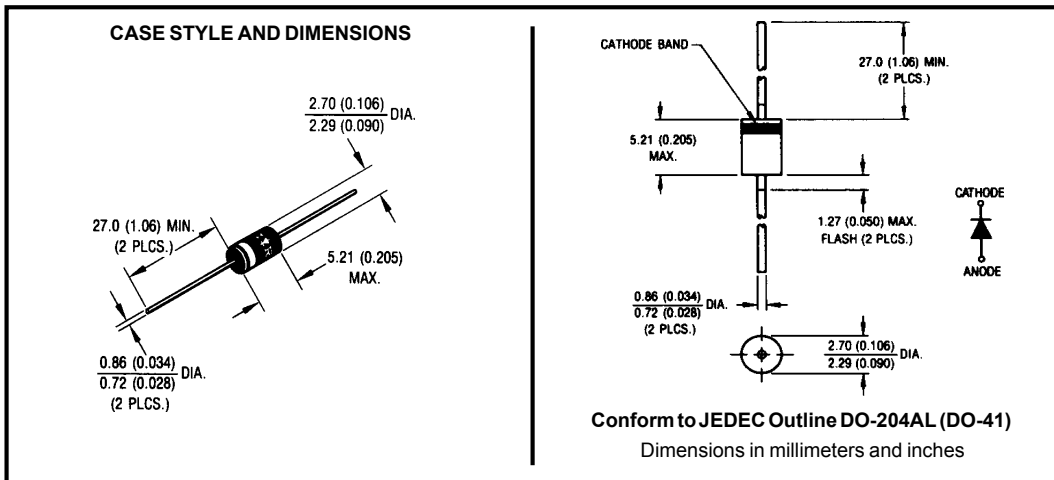
Major Ratings and Characteristics

Characteristics	11DQ..	Units
$I_{F(AV)}$ Rectangular waveform	1.1	A
V_{RRM}	30/40	V
I_{FSM} @tp=5 μ s sine	225	A
V_F @1 Apk, $T_J=25^\circ\text{C}$	0.55	V
T_J range	-40 to 150	$^\circ\text{C}$

Description/Features

The 11DQ.. axial leaded Schottky rectifier has been optimized for very low forward voltage drop, with moderate leakage. Typical applications are in switching power supplies, converters, free-wheeling diodes, and reverse battery protection.

- Low profile, axial leaded outline
- High purity, high temperature epoxy encapsulation for enhanced mechanical strength and moisture resistance
- Very low forward voltage drop
- High frequency operation
- Guard ring for enhanced ruggedness and long term reliability



Voltage Ratings

Partnumber	11DQ03	11DQ04
V_R Max. DC Reverse Voltage (V)	30	40
V_{RWM} Max. Working Peak Reverse Voltage (V)		

Absolute Maximum Ratings

Parameters	11DQ..	Units	Conditions
$I_{F(AV)}$ Max. Average Forward Current * See Fig. 4	1.1	A	50% duty cycle @ $T_L = 75^\circ\text{C}$, rectangular waveform
I_{FSM} Max. Peak One Cycle Non-Repetitive Surge Current * See Fig. 6	225	A	5 μs Sine or 3 μs Rect. pulse
	35		10ms Sine or 6ms Rect. pulse
			Following any rated load condition and with rated V_{RWM} applied

Electrical Specifications

Parameters	11DQ..	Units	Conditions
V_{FM} Max. Forward Voltage Drop * See Fig. 1 (1)	0.55	V	@ 1A
	0.71	V	@ 2A
	0.50	V	@ 1A
	0.61	V	@ 2A
			$T_J = 25^\circ\text{C}$
			$T_J = 125^\circ\text{C}$
I_{RM} Max. Reverse Leakage Current * See Fig. 2 (1)	1.0	mA	$T_J = 25^\circ\text{C}$
	6.0	mA	$T_J = 125^\circ\text{C}$
			$V_R = \text{rated } V_R$
C_T Typical Junction Capacitance	60	pF	$V_R = 5V_{DC}$, (test signal range 100Khz to 1Mhz) 25°C
L_S Typical Series Inductance	8.0	nH	Measured lead to lead 5mm from package body
dv/dt Max. Voltage Rate of Change (Rated V_R)	10000	V/ μs	

(1) Pulse Width < 300 μs , Duty Cycle < 2%

Thermal-Mechanical Specifications

Parameters	11DQ..	Units	Conditions
T_J Max. Junction Temperature Range	-40 to 150	$^\circ\text{C}$	
T_{stg} Max. Storage Temperature Range	-40 to 150	$^\circ\text{C}$	
R_{thJA} Max. Thermal Resistance Junction to Ambient	130	$^\circ\text{C}/\text{W}$	DC Operation Without cooling fin
R_{thJL} Typical Thermal Resistance Junction to Lead	81	$^\circ\text{C}/\text{W}$	DC Operation (* See Fig. 4)
wt Approximate Weight	0.33(0.012)	g(oz.)	
Case Style	DO-204AL(DO-41)		

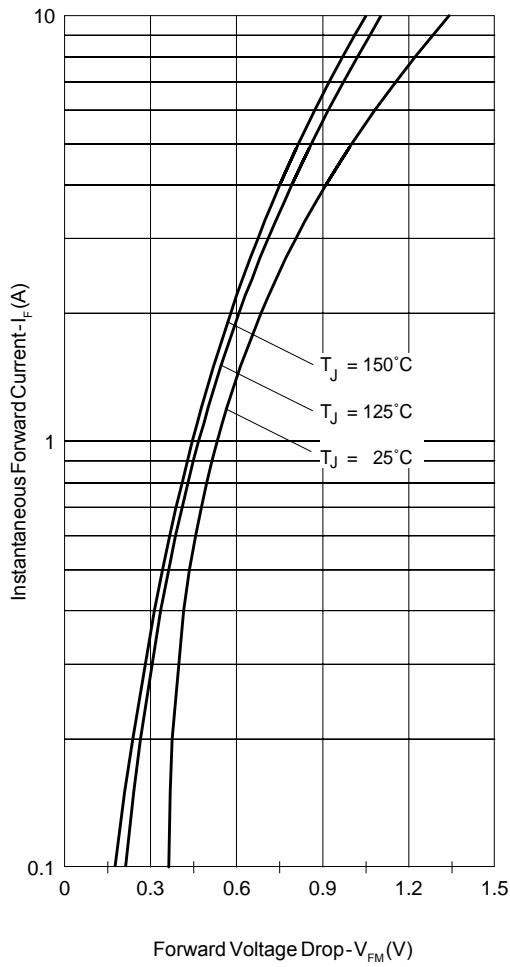


Fig. 1 - Max. Forward Voltage Drop Characteristics

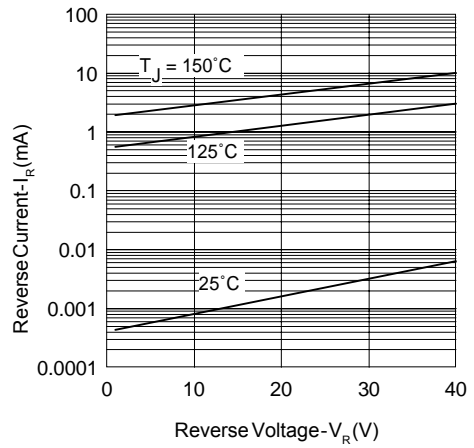


Fig. 2 - Typical Values Of Reverse Current Vs. Reverse Voltage

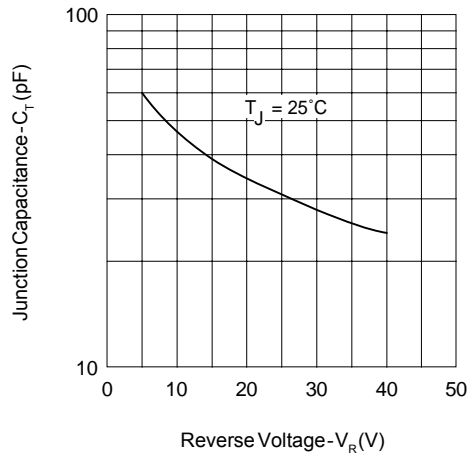


Fig. 3 - Typical Junction Capacitance Vs. Reverse Voltage

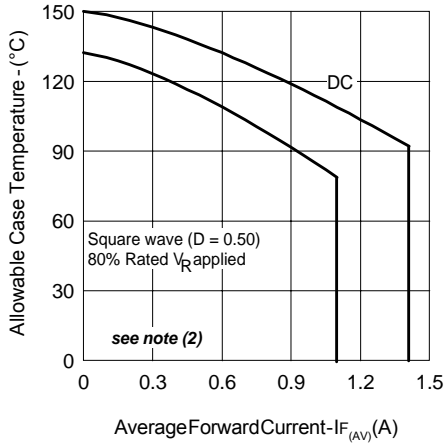


Fig. 4 - Max. Allowable Case Temperature Vs. Average Forward Current

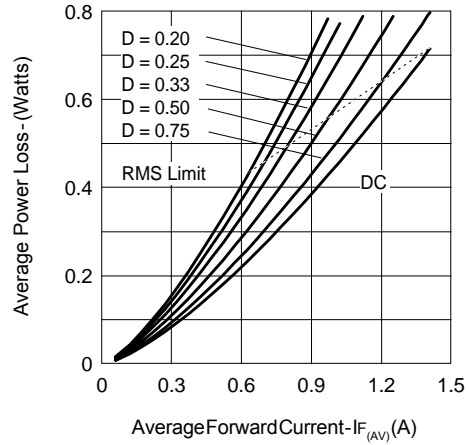


Fig. 5 - Forward Power Loss Characteristics

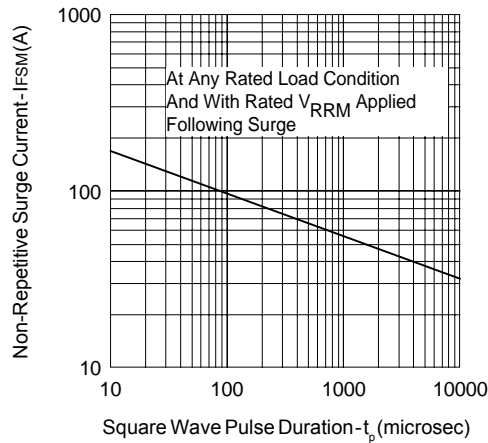


Fig. 6 - Max. Non-Repetitive Surge Current

(2) Formula used: $T_C = T_J - (Pd + Pd_{REV}) \times R_{thJC}$;
 $Pd = \text{Forward Power Loss} = I_{F(AV)} \times V_{FM} @ (I_{F(AV)} / D)$ (see Fig. 6);
 $Pd_{REV} = \text{Inverse Power Loss} = V_{R1} \times I_R (1 - D); I_R @ V_{R1} = 80\% \text{ rated } V_R$

Ordering Information Table

Device Code

11	D	Q	04	TR
①	②	③	④	⑤

1	-	11 = 1.1A (Axial and small packages - Current is x10)
2	-	D = DO-41 package
3	-	Q = Schottky Q.. Series
4	-	04 = Voltage Ratings
5	-	TR = Tape & Reel package (5000 pcs)
	-	TB = Tape & Box package (Ammunition -3000 pcs)
	-	= Box package (1000 pcs)

04 = 40V
 03 = 30V

Data and specifications subject to change without notice.
 This product has been designed and qualified for Industrial Level.
 Qualification Standards can be found on IR's Web site.