

International IOR Rectifier

11DQ09
11DQ10

SCHOTTKY RECTIFIER

1.1 Amp

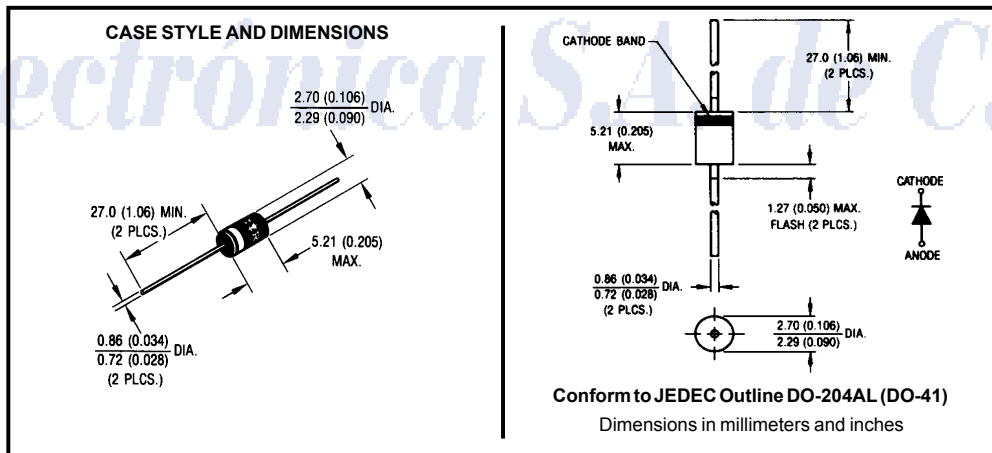
Major Ratings and Characteristics

Characteristics	11DQ..	Units
$I_{F(AV)}$ Rectangular waveform	1.1	A
V_{RRM}	90/100	V
I_{FSM} @tp = 5 μ s sine	85	A
V_F @1 Apk, $T_J = 25^\circ\text{C}$	0.85	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



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Bulletin PD-2.289 rev. C 05/01

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Voltage Ratings

Part number	11DQ09	11DQ10
V_R Max. DC Reverse Voltage (V)	90	100
V_{RMM} 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	85	A	Following any rated load condition and with rated V_{RMM} applied
	14		

Electrical Specifications

Parameters	11DQ..	Units	Conditions
V_{FM} Max. Forward Voltage Drop * See Fig. 1 (1)	0.85	V	@ 1A
	0.96	V	@ 2A
	0.68	V	@ 1A
	0.78	V	@ 2A
I_{RM} Max. Reverse Leakage Current * See Fig. 2 (1)	0.5	mA	$T_J = 25^\circ\text{C}$
	1.0	mA	$T_J = 125^\circ\text{C}$
C_T Typical Junction Capacitance	35	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	$^\circ\text{C/W}$	DC operation Without cooling fin
R_{thJL} Typical Thermal Resistance Junction to Lead	81	$^\circ\text{C/W}$	DC operation (See Fig. 4)
wt Approximate Weight	0.33(0.012)	g(oz.)	
Case Style	DO-204AL(DO-41)		

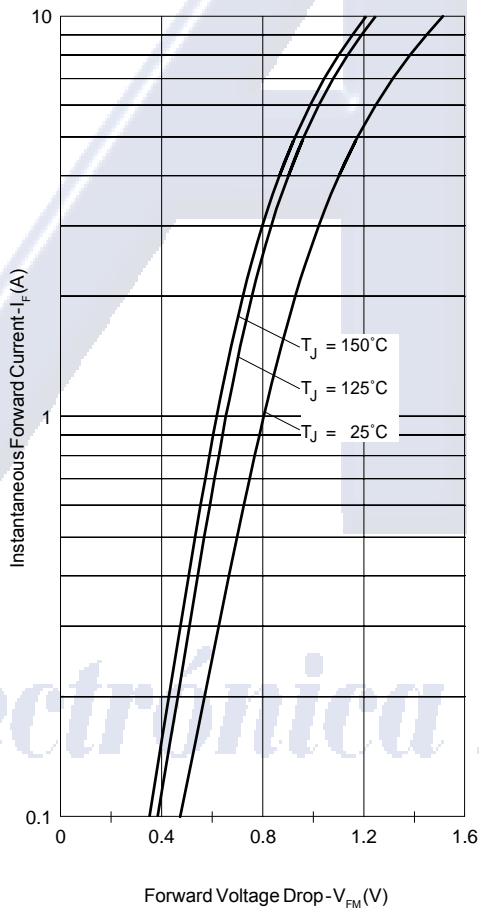


Fig. 1 - Max. Forward Voltage Drop Characteristics

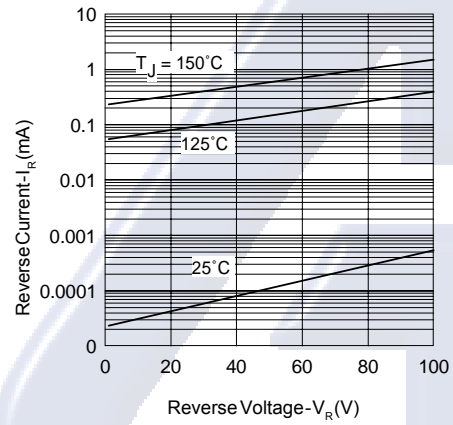


Fig. 2 - Typical Values Of Reverse Current Vs. Reverse Voltage

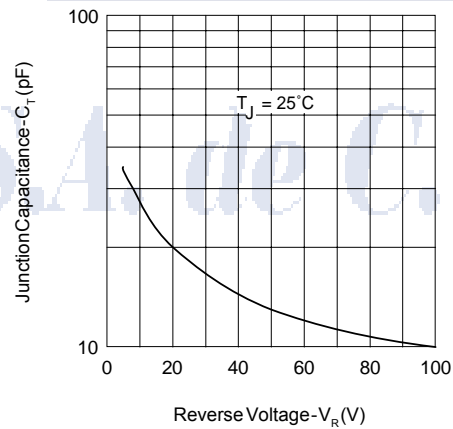


Fig. 3 - Typical Junction Capacitance Vs. Reverse Voltage

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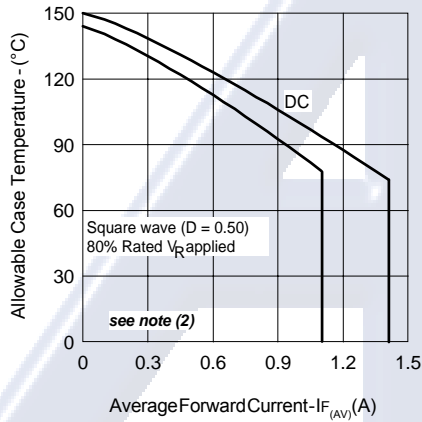


Fig. 4 - Max. Allowable Case Temperature Vs. Average Forward Current

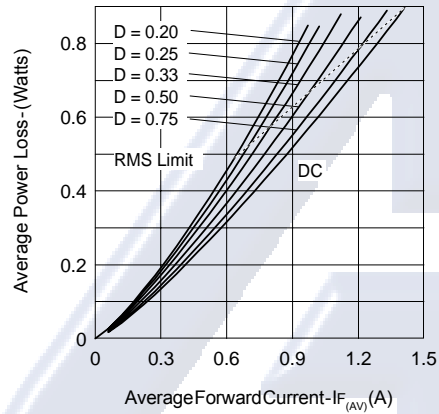


Fig. 5 - Forward Power Loss Characteristics

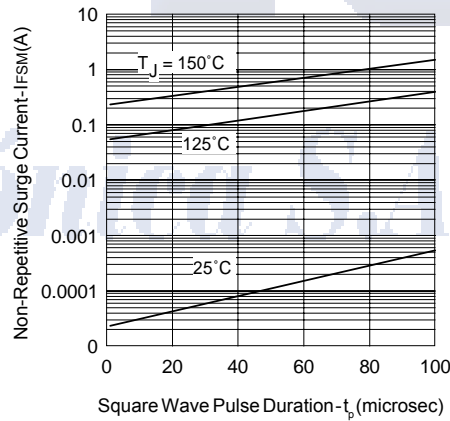


Fig. 6 - Max. Non-Repetitive Surge Current

(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	10	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	-	10 = Voltage Ratings	10 = 100V 09 = 90V	
5	-	TR = Tape & Reel package (5000 pcs)		
		TB = Tape & Box package (Ammunition -3000 pcs)		
		- = Box package (1000 pcs)		

Electrónica S.A. de C.V.

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.

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