



element14

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[VS-11DQ03](#)

[VS-11DQ06.](#)

EN

This Datasheet is presented by
the manufacturer

DE

Dieses Datenblatt wird vom
Hersteller bereitgestellt

FR

Cette fiche technique est
présentée par le fabricant

SCHOTTKY RECTIFIER

1.1 Amp

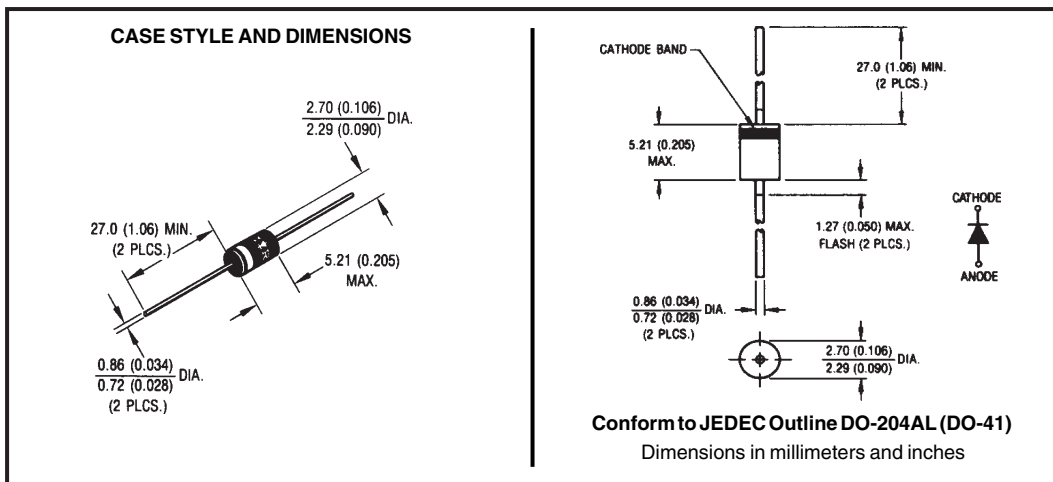
Major Ratings and Characteristics

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

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

Part number	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 @ $T_A=75^\circ\text{C}$, rectangular wave form
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
I_{RM} Max. Reverse Leakage Current * See Fig. 2 (1)	1.0	mA	$T_J = 25^\circ\text{C}$
	6.0	mA	$T_J = 125^\circ\text{C}$
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

(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_{thJA} Typical Thermal Resistance Junction to Ambient with PC Board Mounted	81	$^\circ\text{C/W}$	PC board mounted [L=8mm(0.315in.)] Solder land area 100mm ² (0.155in ² .)
wt Approximate Weight	0.33(0.012)	g(oz.)	
Case Style	DO-204AL(DO-41)		

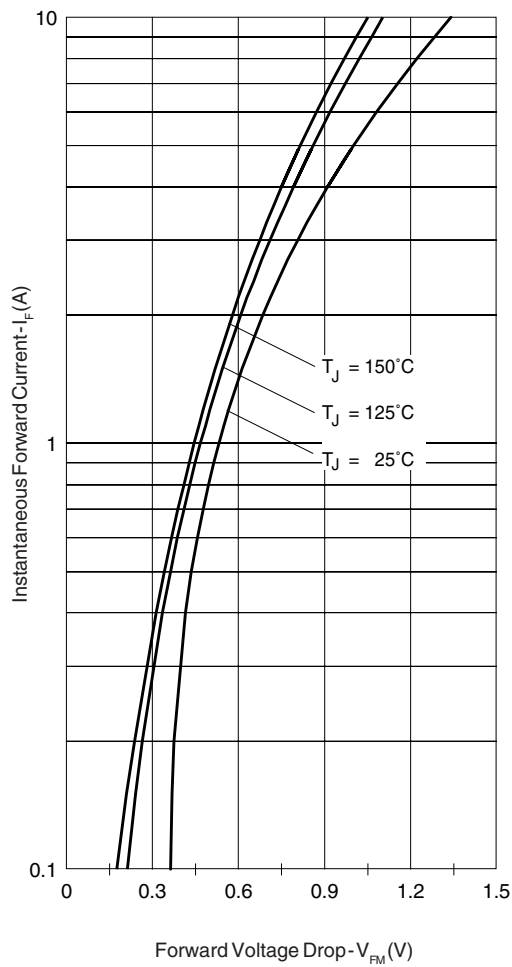


Fig. 1 - Max. Forward Voltage Drop Characteristics

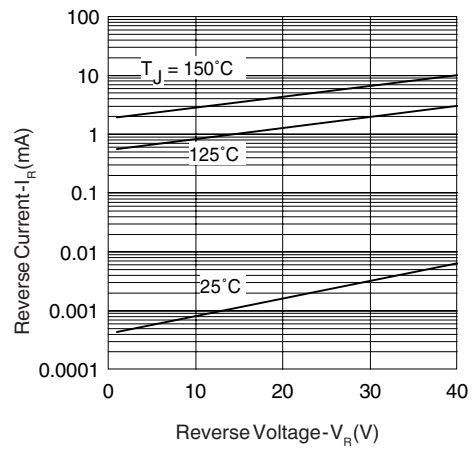


Fig. 2 - Typical Values Of Reverse Current Vs. Reverse Voltage

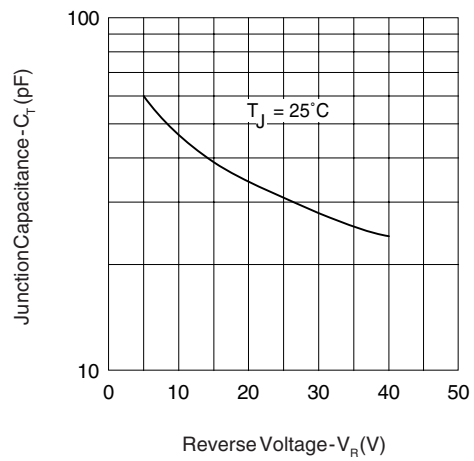


Fig. 3 - Typical Junction Capacitance Vs. Reverse Voltage

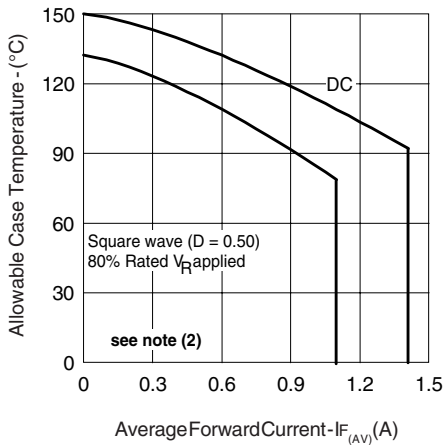


Fig. 4 - Max. Allowable Case Temperature Vs. Average Forward Current

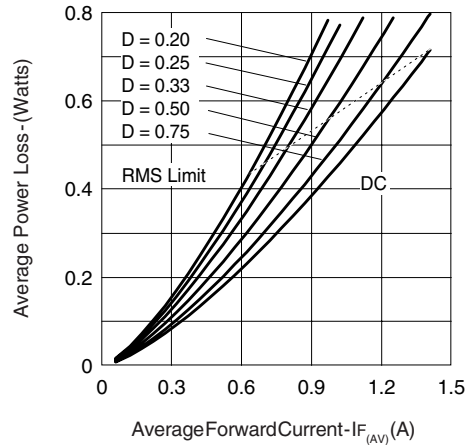


Fig. 5 - Forward Power Loss Characteristics

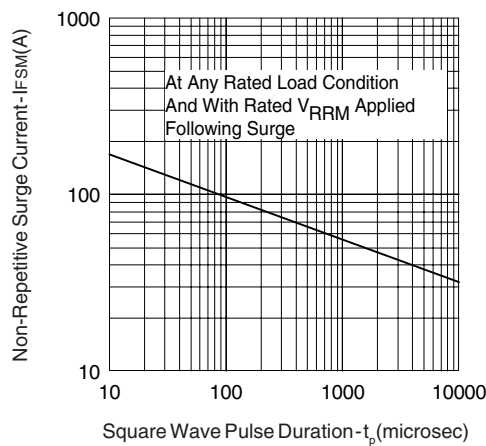


Fig. 6 - Max. Non-Repetitive Surge Current

(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);
 $Pd_{REV} = \text{Inverse Power Loss} = V_{R1} \times I_R (1 - D); I_R @ V_{R1} = 80\% \text{ rated } V_R$

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