

### SCHOTTKY RECTIFIER

3.3 Amp

#### Major Ratings and Characteristics

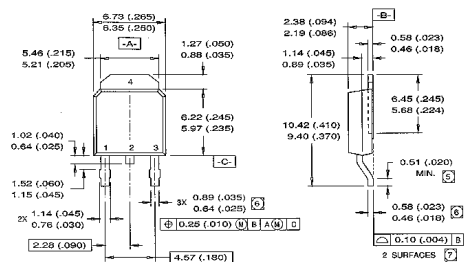
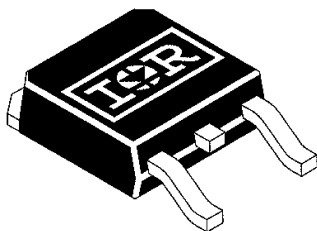
Characteristics	30WQ04FN	Units
$I_{F(AV)}$ Rectangular waveform	3.3	A
$V_{RRM}$	40	V
$I_{FSM}$ @ $t_p = 5\mu s$ sine	470	A
$V_F$ @ 3.0Apk, $T_J = 25^\circ C$	0.62	V
$T_J$	-55 to 150	$^\circ C$

#### Description/Features

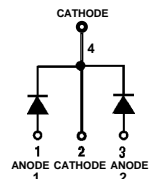
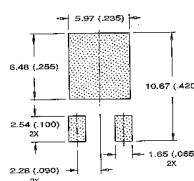
The 30WQ04FN surface mount Schottky rectifier has been designed for applications requiring low forward drop and small foot prints on PC board. Typical applications are in disk drives, switching power supplies, converters, free-wheeling diodes, battery charging, and reverse battery protection.

- Popular D-PAK outline
- Small foot print, surface mountable
- Low forward voltage drop
- High frequency operation
- Guard ring for enhanced ruggedness and long term reliability

#### CASE STYLE



#### MINIMUM RECOMMENDED FOOTPRINT



**D - PAK Outline (Similar to TO-252AA)**  
Dimensions in millimeters and inches

**Voltage Ratings**

Part number	30WQ04FN
$V_R$ Max. DC Reverse Voltage (V)	40
$V_{RWM}$ Max. Working Peak Reverse Voltage (V)	

**Absolute Maximum Ratings**

Parameters	30WQ04FN	Units	Conditions	
$I_{F(AV)}$ Max. Average Forward Current	3.3	A	50% duty cycle @ $T_C = 105^\circ\text{C}$ , rectangular waveform	
$I_{FSM}$ Max. Peak One Cycle Non - Repetitive Surge Current	470	A	5 $\mu\text{s}$ Sine or 3 $\mu\text{s}$ Rect. pulse	Following any rated load condition and with rated $V_{RRM}$ applied
	40		10ms Sine Or 6ms Rect. pulse	

**Electrical Specifications**

Parameters	30WQ04FN	Units	Conditions	
$V_{FM}$ Max. Forward Voltage Drop (1)	0.62	V	@3.0A	$T_J = 25^\circ\text{C}$
	0.88	V	@6.0A	
	0.56	V	@ 3.0A	$T_J = 125^\circ\text{C}$
	0.69	V	@6.0A	
$I_{RM}$ Max. Reverse Leakage Current (1)	2	mA	$T_J = 25^\circ\text{C}$	$V_R = \text{rated } V_R$
	12	mA	$T_J = 125^\circ\text{C}$	
$C_T$ Max. Junction Capacitance	110	pF	$V_R = 5V_{DC}$ , ( test signal range 100Khz to 1Mhz), $25^\circ\text{C}$	
$L_S$ Typical Series Inductance	5.0	nH	Measured lead to lead 5mm from package body	
$dv/dt$ Max. Voltage Rate of Change (Rated $V_R$ )	10,000	V/ $\mu\text{s}$		

(1) Pulse Width < 300 $\mu\text{s}$ , Duty Cycle < 2%**Thermal-Mechanical Specifications**

Parameters	30WQ04FN	Units	Conditions
$T_J$ Max. Junction Temperature Range	-55 to 150	$^\circ\text{C}$	
$T_{STG}$ Max. Storage Temperature Range	-55 to 150	$^\circ\text{C}$	
$R_{thJC}$ Max. Thermal Resistance, Junction to case	6.0	$^\circ\text{C}/\text{W}$	DC operation
wt Approximate Weight	0.3(0.01)	g (oz.)	
Case Style	D-PAK		Similar to TO-252AA