

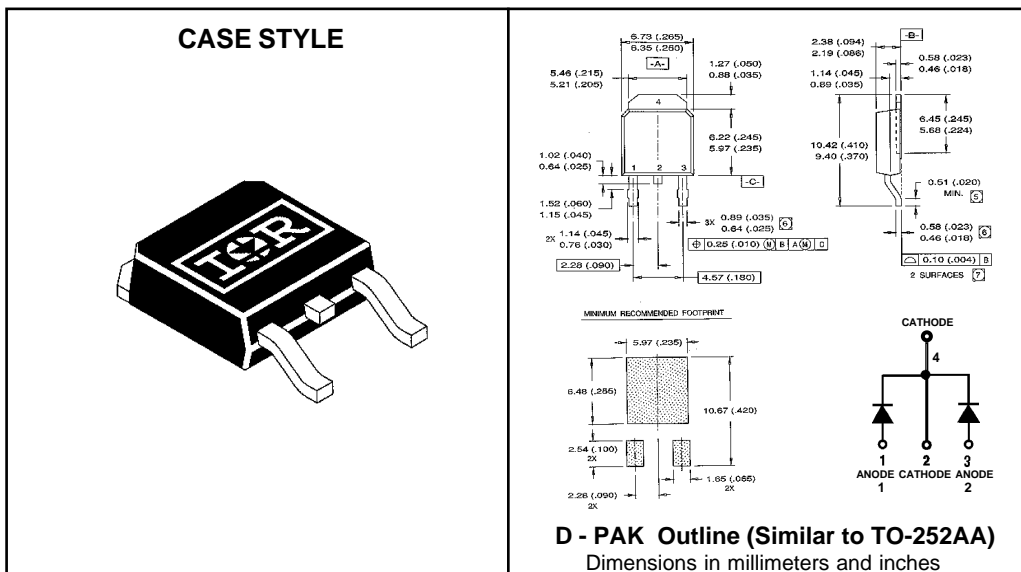
Major Ratings and Characteristics

Characteristics	12CWQ06FN	Units
$I_{F(AV)}$ Rectangular waveform	12	A
V_{RRM}	60	V
I_{FSM} @ $t_p = 5\mu s$ sine	210	A
V_F @ 6.0Apk, $T_J = 125^\circ C$ (per leg)	0.54	V
T_J	-55 to 150	$^\circ C$

Description/Features

The 12CWQ06FN surface mount, center tap, 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
- Center tap configuration
- Small foot print, surface mountable
- Low forward voltage drop
- High frequency operation
- Guard ring for enhanced ruggedness and long term reliability



Voltage Ratings

Part number	12CWQ06FN
V_R Max. DC Reverse Voltage (V)	60
V_{RWM} Max. Working Peak Reverse Voltage (V)	

Absolute Maximum Ratings

Parameters	12CWQ06FN	Units	Conditions	
$I_{F(AV)}$ Max. Average Forward Current	12	A	50% duty cycle @ $T_C = 105^\circ\text{C}$, rectangular waveform	
I_{FSM} Max. Peak One Cycle Non - Repetitive Surge Current (Per Leg)	210	A	5 μs Sine or 3 μs Rect. pulse	
	42		10ms Sine or 6ms Rect. pulse	

Following any rated load condition and with rated V_{RRM} applied

Electrical Specifications

Parameters	12CWQ06FN	Units	Conditions	
V_{FM} Max. Forward Voltage Drop (Per Leg) (1)	0.54	V	@ 6.0A	$T_J = 125^\circ\text{C}$
I_{RM} Max. Reverse Leakage Current (Per Leg) (1)	3.0	mA	$T_J = 25^\circ\text{C}$	$V_R = \text{rated } V_R$
	30	mA	$T_J = 125^\circ\text{C}$	
C_T Max. Junction Capacitance (Per Leg)	100	pF	$V_R = 5V_{DC}$, (test signal range 100Khz to 1Mhz), 25°C	
L_S Typical Series Inductance (Per Leg)	5.0	nH	Measured lead to lead 5mm from package body	
dv/dt Max. Voltage Rate of Change (Rated V_R)	10,000	V/ μs		

(1) Pulse Width < 300 μs , Duty Cycle < 2%**Thermal-Mechanical Specifications**

Parameters	12CWQ06FN	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	3.0	$^\circ\text{C}/\text{W}$	DC operation	
R_{thJA} Max. Thermal Resistance, Junction to Ambient	110	$^\circ\text{C}/\text{W}$	DC operation	
	50		PC Board mounted print land = 20x20mm	
wt Approximate Weight	0.3(0.01)	g (oz.)		
Case Style	D-PAK		Similar to TO-252AA	