

Schottky Barrier Rectifier

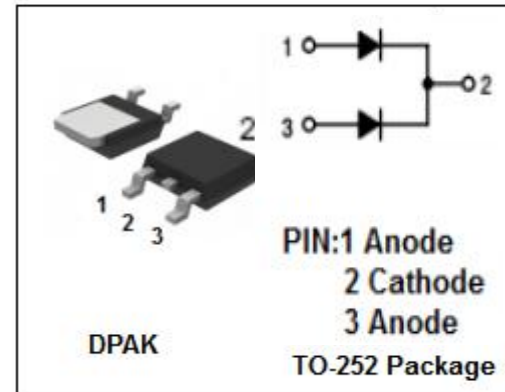
12CWQ03FN

FEATURES

- With TO-252(DPAK) packaging
- Low power loss
- High efficiency
- High frequency operation
- High surge capacity
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

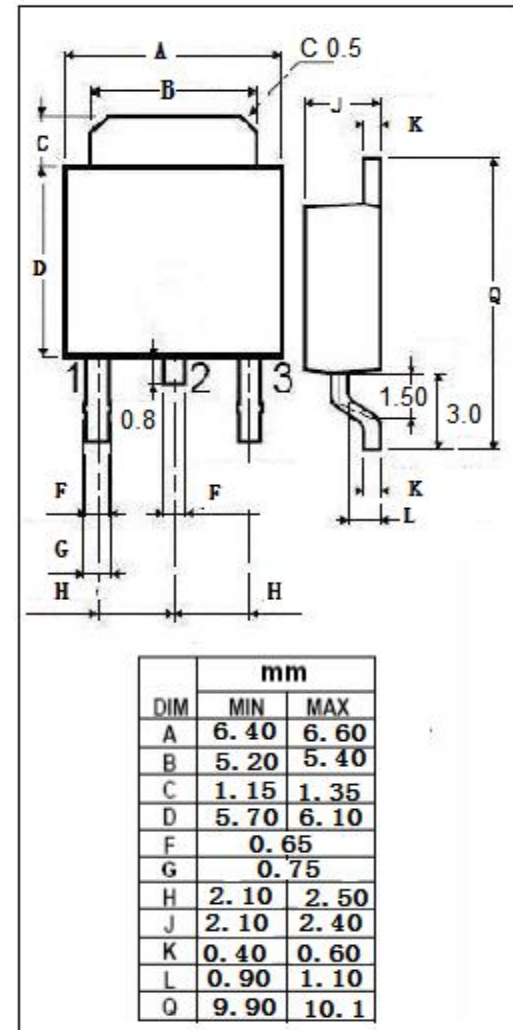
APPLICATIONS

- Switching power supply
- High frequency inverters
- Freewheeling diodes
- Reverse battery protection
- Polarity protection applications



ABSOLUTE MAXIMUM RATINGS($T_a=25^{\circ}\text{C}$)

SYMBOL	PARAMETER	VALUE	UNIT
V_{RRM} V_{RMS} V_R	Peak Repetitive Reverse Voltage RMS Voltage DC Blocking Voltage	30	V
$I_{F(AV)}$	Average Rectified Forward Current @ $T_c=135^{\circ}\text{C}$	12	A
$I_{F(RMS)}$	Forward rms current@ $T_c=135^{\circ}\text{C}$	24	A
I_{FSM}	Nonrepetitive Peak Surge Current (10ms single half sine-wave superimposed on rated load conditions,60Hz)	320	A
T_J	Junction Temperature	-55~150	$^{\circ}\text{C}$
T_{stg}	Storage Temperature Range	-55~150	$^{\circ}\text{C}$



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THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	3.0	$^{\circ}C/W$

ELECTRICAL CHARACTERISTICS (Pulse Test: Pulse Width=300 μ s, Duty Cycle \leq 2%)

SYMBOL	PARAMETER	CONDITIONS	MAX	UNIT
V_F	Maximum Instantaneous Forward Voltage	$I_F= 6A ; T_c= 25^{\circ}C$	0.47	V
		$I_F= 6A ; T_c= 125^{\circ}C$	0.37	
		$I_F= 12A ; T_c= 25^{\circ}C$	0.55	
		$I_F= 12A ; T_c= 125^{\circ}C$	0.49	
I_R	Maximum Instantaneous Reverse Current	$V_R= \text{rated } V_{RRM}; T_c= 25^{\circ}C$	3	mA
		$V_R= \text{rated } V_{RRM}; T_c= 125^{\circ}C$	58	

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