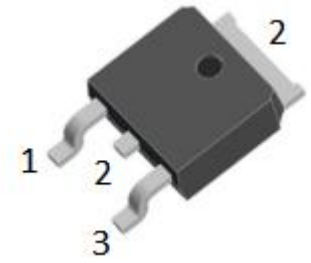
Technical Data
Data Sheet N0659, Rev. A

12CWQ06FN SCHOTTKY RECTIFIER

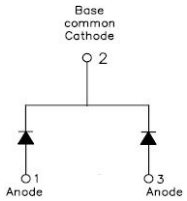


DPAK

Features

- Small foot print, surface mountable
- Low forward voltage drop
- High frequency operation
- Guard ring for enhanced ruggedness and long term reliability
- Green products in compliance with the ROHS directive
- "-A" is an AEC-Q101 qualified device
- Terminals finish: Tin Lead-free plated
- This is a Pb − Free Device
- All SMC parts are traceable to the wafer lot
- Additional testing can be offered upon request

Circuit Diagram



Applications

- Disk drives
- Switching power supply
- Converters
- Free-Wheeling diodes
- Reverse battery protection
- Battery charging

Maximum Ratings@T_C=25°C unless otherwise specified

Characteristics	Symbol	Condition	Max.	Units
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	-	60	V
Average Rectified Forward Current	$I_{F\ (AV)}$	50% duty cycle @T_C = 131°C, rectangular wave form	6(peg leg) 12(peg device)	A
Peak One Cycle Non-Repetitive Surge Current(peg leg)	I_{FSM}	8.3 ms, half Sine pulse	126	A

Electrical Characteristics:

Characteristics	Symbol	Condition	Typ.	Max.	Units
Forward Voltage Drop (per leg) *	V_{F1}	@ 6A, Pulse, T_J = 25 °C	0.58	0.61	V
	V_{F2}	@ 6A, Pulse, T_J = 125 °C	0.53	0.57	V
Reverse Current (per leg) *	I_{R1}	@V_R = rated V_R, T_J = 25 °C	0.01	3	mA
	I_{R2}	@V_R = rated V_R, T_J = 125 °C	8	35	mA
Junction Capacitance (per leg)	C_T	@V_R = 5V, T_C = 25 °C f_{SIG} = 1MHz	246	360	pF

* Pulse width < 300 µs, duty cycle < 2%

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Thermal-Mechanical Specifications:

Characteristics	Symbol	Condition	Specification	Units
Junction Temperature	T_J	-	-55 to +125	°C
Storage Temperature	T_{stg}	-	-55 to +150	°C
Typical Thermal Resistance Junction to Case	$R_{\theta JC}$	-	3.0(per leg) 1.5(per device)	°C/W
Approximate Weight	wt	-	0.39	g
Case Style	DPAK			

Ratings and Characteristics Curves

Figure1 Typical Forward Characteristics

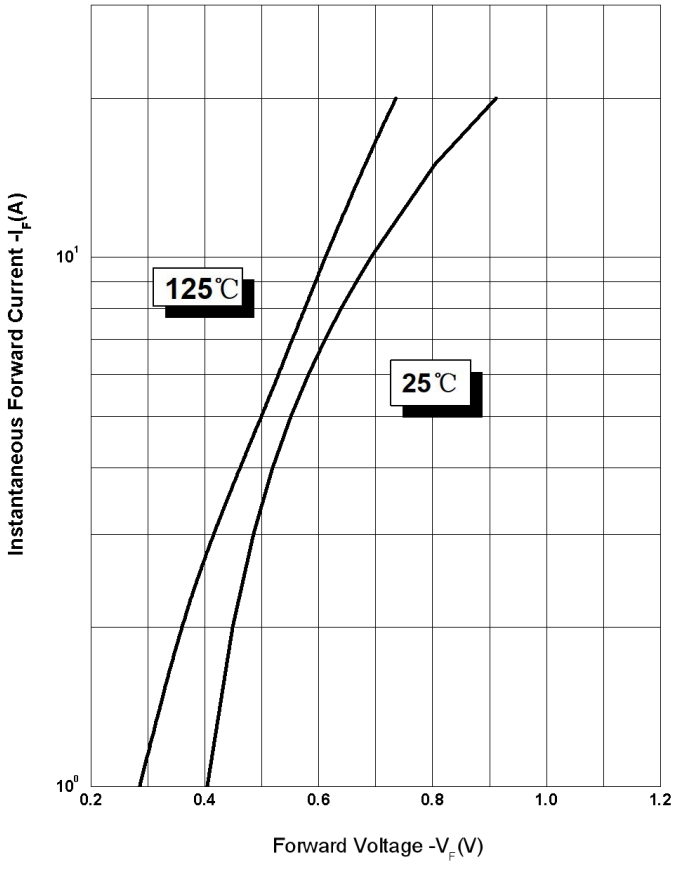


Figure 2 Typical Reverse Characteristics

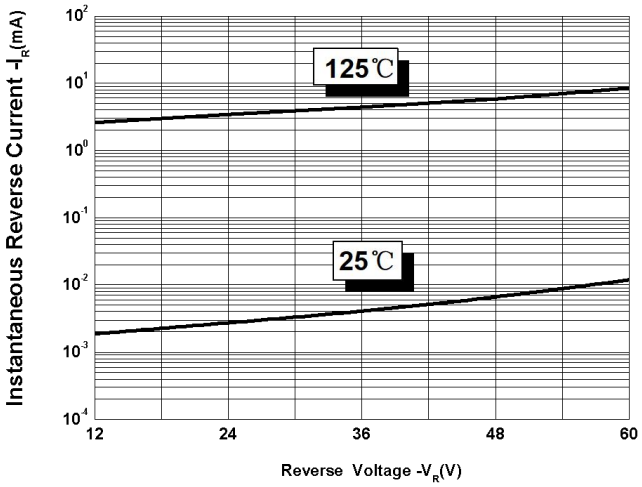
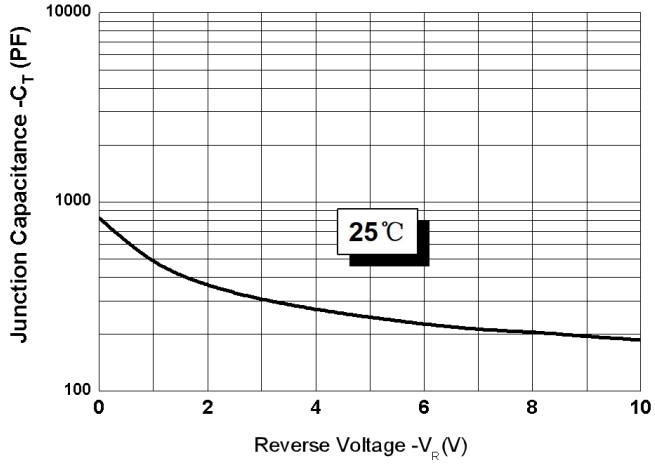


Figure 3 Typical Junction Capacitance



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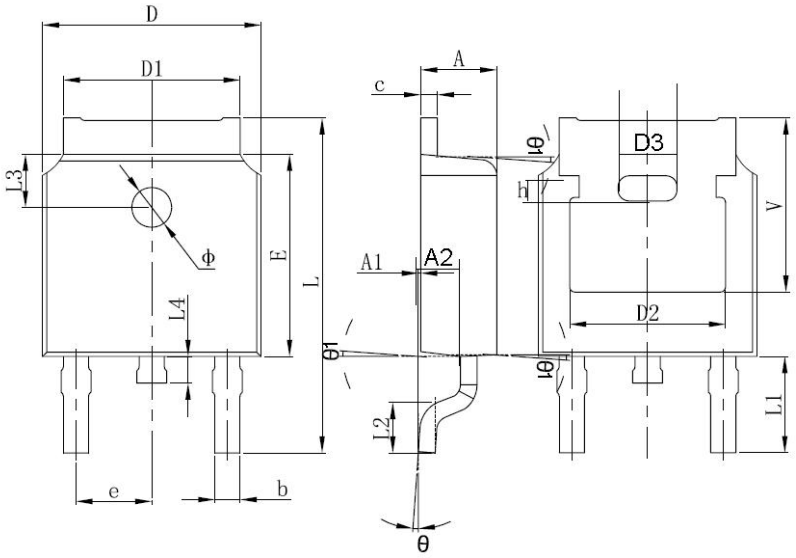
Mechanical Dimensions DPAK



The outline from different package houses may have slight differences. So the outline above is just schematic. The dimensions are controlled per specifications.

Symbol	Dimensions in millimeters		
	Min.	Typical	Max.
A	2.18	-	2.39
A1	-	-	0.13
b	0.64	-	0.89
c	0.46	-	0.89
D	6.35	-	6.73
D1	4.95	-	5.46
D2	4.32	-	-
E	5.97	6.1	6.22
e		2.29BSC	
L	9.4	-	10.41
L1		2.90 REF.	
L2	1.4	1.52	1.78
L3		1.60 REF.	
L4	-	-	1.02
Φ	1.1	-	1.3
Θ	0°	-	10°
V	5.21	-	-

Ordering Information

Device	Package	Shipping
12CWQ06FN	DPAK (Pb-Free)	2500pcs / reel
12CWQ06FNTR	DPAK (Pb-Free)	2500pcs / reel

For information on tape and reel specifications, including part orientation and tape sizes, please refer to our tape and reel packaging specification.

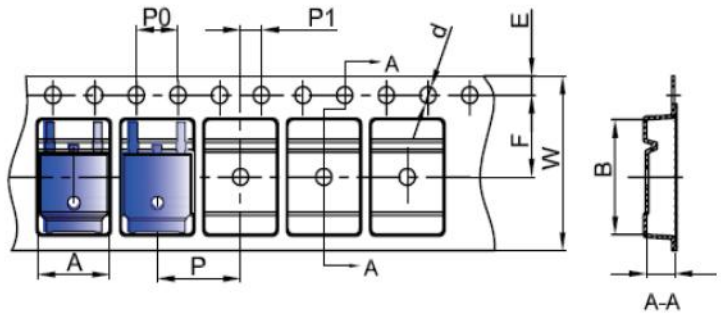
Marking Diagram

Where XXXXX is YYWWL

12	= Forward Current (12A)
CW	= Configuration
Q	= Device Type
06	= Reverse Voltage (60V)
FN	= Package type
SSG	= SSG
YY	= Year
WW	= Week
L	= Lot Number

Cautions: Molding resin
Epoxy resin UL:94V-0

Carrier Tape Specification DPAK



SYMBOL	Millimeters	
	Min.	Max.
A	6.80	7.00
B	10.40	10.60
C	2.60	2.80
d	Φ1.45	Φ1.65
E	1.65	1.85
F	7.40	7.60
P0	3.90	4.10
P	7.90	8.10
P1	1.90	2.10
W	15.90	16.30

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