



**THE DATASHEET OF  
12CWQ10FNTR**



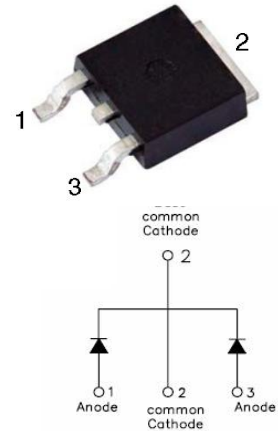
## 12CWQ10FN SCHOTTKY RECTIFIER

### Applications:

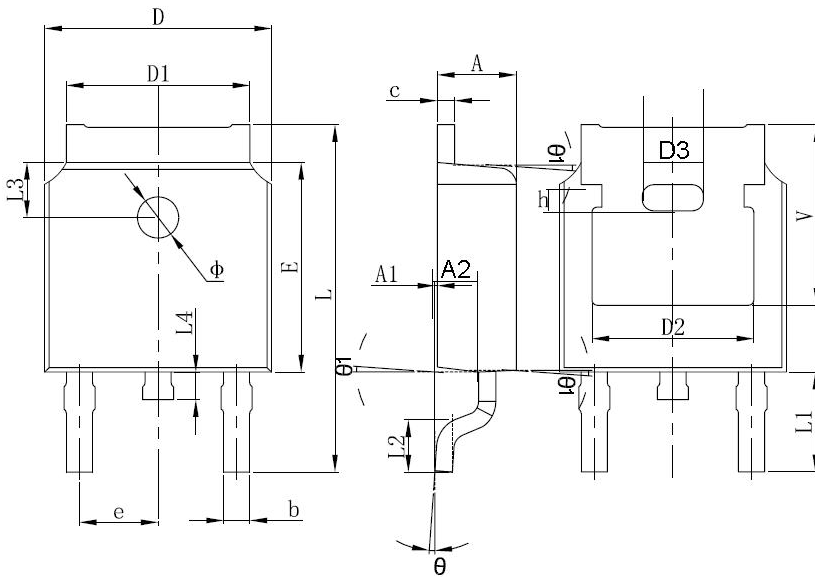
- Disk drives
- Switching power supply
- Converters
- Free-Wheeling diodes
- Reverse battery protection
- Battery charging

### 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
- This is a Pb - Free Device
- All SMC parts are traceable to the wafer lot
- Additional testing can be offered upon request



### Mechanical Dimensions: In mm /Inches



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	2.200	2.380	0.087	0.094
A1	0.000	0.100	0.000	0.004
b	0.710	0.810	0.028	0.032
c	0.460	0.560	0.018	0.022
D	6.500	6.700	0.256	0.264
D1	5.130	5.460	0.202	0.215
D2	4.830 REF.		0.190 REF.	
E	6.000	6.200	0.236	0.244
e	2.186	2.386	0.086	0.094
L	9.800	10.400	0.386	0.409
L1	2.900 REF.		0.114 REF.	
L2	1.400	1.700	0.055	0.067
L3	1.600 REF.		0.063 REF.	
L4	0.600	1.000	0.024	0.039
phi	1.100	1.300	0.043	0.051
theta	0°	8°	0°	8°
A2	0.910	1.110	0.036	0.044
V	5.350 REF.		0.211 REF.	
D3	1.778 REF.		0.070 REF.	
h	0.762 REF.		0.030 REF.	
theta1	7°		7°	

### DPAK (CJ)

**Marking Diagram:**



Where XXXXX is YYWWL

12 = Forward Current (12A)  
 CW = Configuration  
 Q = Device Type  
 10 = Reverse Voltage (100V)  
 FN = Package type  
 SSG = SSG  
 YY = Year  
 WW = Week  
 L = Lot Number

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

**Ordering Information:**

Device	Package	Shipping
12CWQ10FN	DPAK (Pb-Free)	2500 pcs / reel

For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specification.

**Maximum Ratings:**

Characteristics	Symbol	Condition	Max.	Units
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	$V_{RRM}$ $V_{RWM}$ $V_R$	-	100	V
Average Forward Current	$I_{F(AV)}$	50%duty cycle@Tc=105°C, rectangular wave form	6(per leg) 12(per device)	A
Peak One Cycle Non- repetitive Surge Current(per leg)	$I_{FSM}$	8.3ms,half sine pulse	130	A

**Electrical Characteristics:**

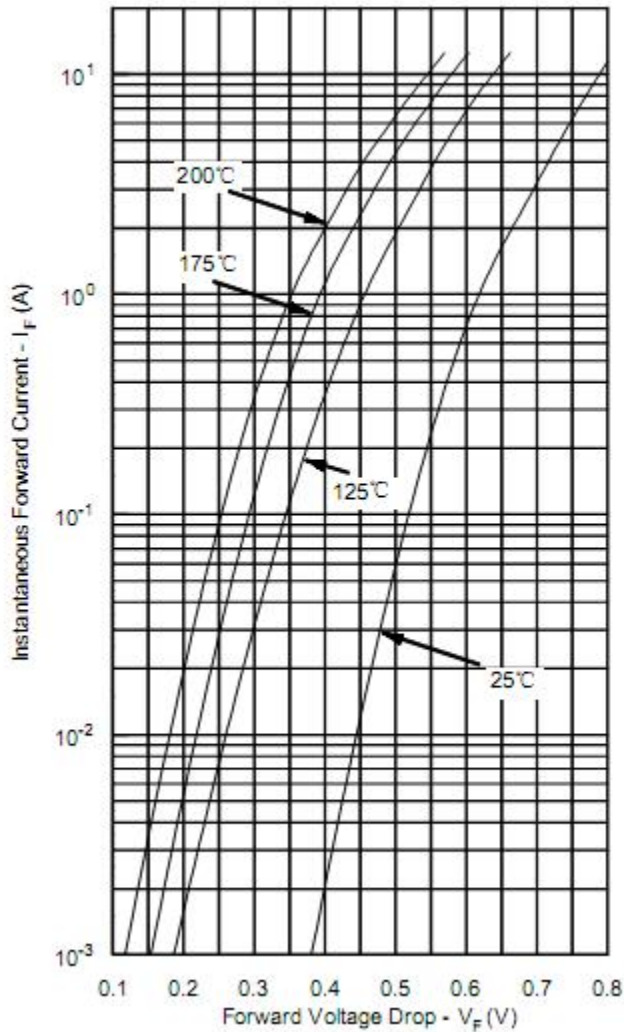
Characteristics	Symbol	Condition	Typ.	Max.	Units
Forward Voltage Drop (per leg)*	V <sub>F1</sub>	@ 6A, Pulse, T <sub>J</sub> = 25 °C	0.75	0.80	V
	V <sub>F2</sub>	@ 6A, Pulse, T <sub>J</sub> = 125 °C	0.60	0.65	V
Reverse Current (per leg)*	I <sub>R1</sub>	@ V <sub>R</sub> = rated V <sub>R</sub> , Pulse, T <sub>J</sub> = 25 °C	0.00008	1.0	mA
	I <sub>R2</sub>	@ V <sub>R</sub> = rated V <sub>R</sub> , Pulse, T <sub>J</sub> = 125 °C	0.7	4.0	mA
Junction Capacitance (per leg)	C <sub>T</sub>	@ V <sub>R</sub> = 5V, T <sub>C</sub> = 25 °C f <sub>SIG</sub> = 1MHz	193	250	pF
Typical Series Inductance (per leg)	L <sub>S</sub>	Measured lead to lead 5 mm from package body	5.0	-	nH

\*Pulse Width < 300µs, Duty Cycle <2%

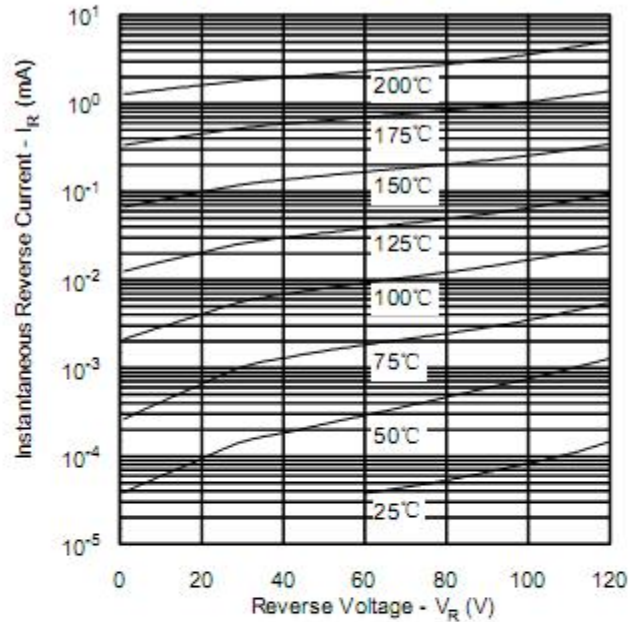
**Thermal-Mechanical Specifications:**

Characteristics	Symbol	Condition	Specification	Units
Junction Temperature	T <sub>J</sub>	-	-55 to +150	°C
Storage Temperature	T <sub>stg</sub>	-	-55 to +150	°C
Typical Thermal Resistance Junction To Case	R <sub>θJC</sub>	DC operation	3.0(per leg)	°C/W
			1.5(per device)	
Approximate Weight	wt	-	0.39	g
Case Style	DPAK			

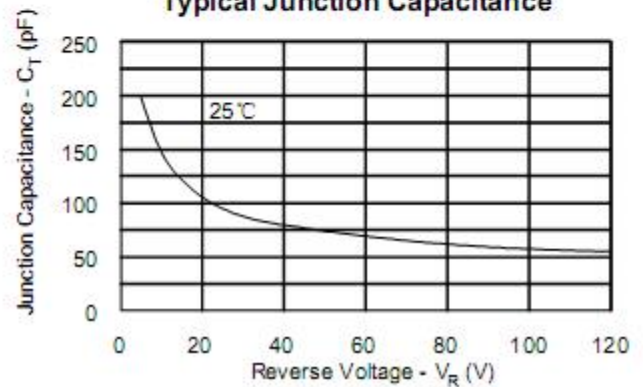
**Typical Forward Characteristics**



**Typical Reverse Characteristics**



**Typical Junction Capacitance**



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