

NEW

Z-Rec™ 600 V, Silicon Carbide Schottky Diode

Cree's Z-Rec™ 600 V SiC Schottky diodes combine fast switching speeds, low switching losses and high surge current capabilities with the industry's best performance to cost ratio.



FEATURES*

- Lowest overall power loss
 - » Lower junction capacitance for reduced switching loss
 - » No compromise in conduction loss
- Highest surge current capability
 - » Enhanced non-repetitive surge current capability
 - » Optimized repetitive surge capability for best cost performance

Parameters	Cree C3D10060A	Competitor -I SiC Diode	Competitor -II SiC Diode
Average Forward Current I_f	10.0 A @ 150 °C _{Tc}	10.0 A @ 130 °C _{Tc}	10.0 A @ 115 °C _{Tc}
V_{f_max} @ $I_f = 10$ A	1.8 V	2.1 V	1.7 V
Non-repetitive Surge I_{FSM} @ 25 °C _{Tc}	90.0 A	51.0 A	40.0 A
Repetitive Surge I_{FRM} @ 110 °C _{Tc}	44.0 A	N/A	40.0 A

* Lowest overall power loss and highest surge current capability were determined by comparison to all 600 V SiC Schottky diodes commercially available as of June 26, 2009. All other features described are as compared to Cree's first generation devices.



Key Specifications: 600 V blocking voltage, 1.8 V_{MAX} forward voltage, 10 μA typical reverse current

Z-Rec™ Schottkys	Available Packages	I _f (A) @ 150 °C T _c	Target P _o (W)	I _{FRM} (A) @ 110 °C T _c	I _{FSM} (A) @ 25 °C T _c	Availability
C3D02060	T0-220-2,	2.0	200 - 300	9.0	20.0	Now
C3D03060	T0-220-2 Full Pak,	3.0	300 - 450	15.0	28.0	August 2009
C3D04060	D-PAK	4.0	400 - 600	16.0	31.0	Now
C3D06060		6.0	600 - 900	27.0	70.0	Now
C3D08060	T0-220-2, D ² PAK	8.0	800 - 1200	36.0	80.0	Now
C3D10060		10.0	1000 - 1500	44.0	90.0	Now
C3D20060	T0-247-3	20.0	1500 - 3000	88.0	180.0	Now

Package Code:



A: TO-220-2



D: TO-247-3



**E: TO-252-2
D-PAK**

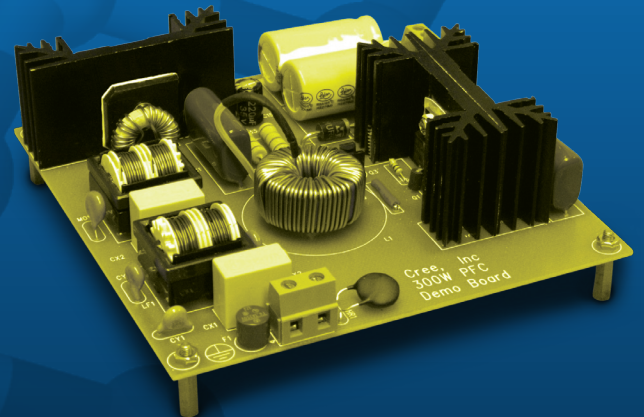


**F: TO-220-2
FullPak**



**G: TO-263-2
D²PAK**

- Go to www.cree.com/power for more information
 - » Datasheets
 - » Application notes
 - » Reliability and qualification information
- Demo board design available upon request
 - » 300-500 W capable
 - » Optimized for best cost and performance



RoHS, REACH, and Halogen-Free compliant

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