International
IOR Rectifier
THE POWER MANAGEMENT LEADER

BENCHMARK MOSFETS

AC-DC Synchronous Rectification Power MOSFETs

Features and Benefits

- Tailored for synchronous rectification applications
- Enable lower conduction losses for higher efficiency and greater power density
- Available in TO-220, D^2PAK, and D^2PAK-7 packages
- Available lead-free
- Qualified Industrial and moisture sensitivity MSL1

Market/Applications

- AC-DC servers, laptop adaptors, and desktop power supplies
- Telecom and server ORing function for 48V rails
- Primary side 24V VIN DC-DC and low voltage motor drive applications

The IR Advantage

- Industry's Lowest $R_{DS(on)}$
- Covering 12V – 24V output SMPS power requirements
- Benchmark performance in AC-DC SMPS applications

IR has expanded its range of HEXFET® MOSFETs designed for AC-DC synchronous rectification in servers, laptop adaptors, and desktop power supplies.

In the ongoing quest to increase the power density and speed of data processing circuits, the need for higher density in power supplies continues to grow. The new MOSFETs enable improved power density by lowering $R_{DS(on)}$ by up to 15% compared to previous IR versions, and offer superior synchronous rectification performance through improved $R_{DS(on)}$ in AC-DC SMPS applications.

The highly efficient 60V, 75V and 100V HEXFET® power MOSFETs are available in TO-220, D^2PAK, and D^2PAK-7 packages. The lower $R_{DS(on)}$ values may help enable part count reduction in secondary synchronous rectification and full-bridge topology power supplies compared to competing devices in the same package.

The 60V and 75V MOSFETs are designed to shrink circuit size and increase power density in high power server AC-DC switch-mode power supplies (SMPS) with 12V output or 48V rail ORing circuits. The 100V devices are well suited to high power flyback secondary rectification and offer enhanced primary-side efficiency in high power telecom isolated 48V DC-DC converters. In addition, the new MOSFETs can be used in stepper motor and brushless DC motor drive applications.

Your FIRST CHOICE for Performance

AC-DC Synchronous Rectification Power MOSFETs

Part Number	V_{DS} (V)	I_D (A)	$R_{DS(on)}$ @ V_{GS} = 10V (mΩ)	Q_G (nC)	Package
IRFS3004-7PPBF	40	240	1.25	160	D²Pak-7
IRFS3004PBF	40	195	1.75	160	D²Pak
IRFB3004PBF	40	195	1.75	160	TO-220
IRFS3006-7PPBF	60	240	2.1	200	D²Pak-7
IRFS3006PBF	60	195	2.5	200	D²Pak
IRFB3006PBF	60	195	2.5	200	TO-220
IRFS3107-7PPBF	75	240	2.6	160	D²Pak-7
IRFS3107PBF	75	195	3.0	160	D²Pak
IRFB3077PBF	75	210	3.3	160	TO-220
IRFS4010-7PPBF	100	190	4.0	150	D²Pak-7
IRFB4110PBF	100	120	4.5	150	TO-220
IRFS4010PBF	100	180	4.7	143	TO-220
IRFB4115PBF	150	104	11.0	77	TO-220
IRFS4115PBF	150	99	12.1	77	D²Pak

The range of HEXFET® Power MOSFETs can be used with IR's SmartRectifier to provide the ultimate SmartRectifier Chipset solutions.

Part Number	Package	V_{CC} (V)	V_{FET} (V)	Sw Freq. max (kHz)	Gate Drive ± (A)	V_{GATE} Clamp (V)	Min. On Time (ns)	Enable Pin	Channel	Automatic MOT Protection
IR1166SPBF	SO-8	20	200	500	+1/-4	10.7	Program. 250-3000	Yes	1	No
IR1167ASPBF					+2/-7	10.7		Yes		No
IR1167BSPBF					+2/-7	14.5		Yes		No
IR1168SPBF					+1/-4	10.7	750	No	2	No
IR11662SPBF					+1/-4	10.7	Program. 250-3000	Yes	1	Yes
IR11672ASPBF					+2/-7	10.7		Yes		Yes
IR11682SPBF				400	+1/-4	10.7	850	No	2	Yes