



# New Product Announcement DTH Series MURS Series

## PFC Optimized Fast Recovery Rectifiers Increase Power Supply Efficiency

Diodes Incorporated's (Diodes) comprehensive portfolio of 600V to 1000V, 1A to 30A, fast-recovery rectifiers enable power supply designers to achieve optimum system efficiency while meeting regulatory compliance for power-factor correction (PFC). Applications include offline lighting, server power supplies and USB PD adapters.

The low forward voltage ( $V_F$ ) of both the DIODES™ MURS series and DIODES™ DTH8L series minimize forward losses to achieve high efficiency and are well suited for use in PFC boost converters operating in either critical conduction mode (CrCM) or discontinuous conduction mode (DCM).

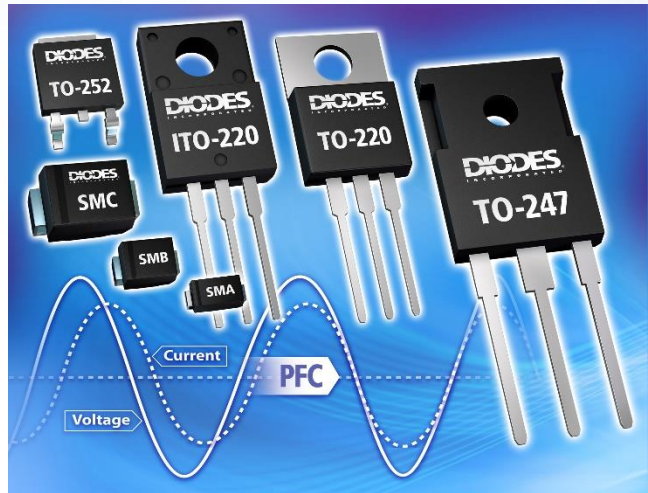
For applications using continuous conduction mode (CCM), the requirements for faster recovery speeds are met by the DTH8 E, R, and S-series, providing more combinations between low  $V_F$  and low reverse recovery time ( $t_{RR}$ ).

The MURS series is available in the compact SMA, SMB, and SMC surface mount packages. The DTH series is available in both through-hole, TO-220, ITO-220, TO-247, and surface mount TO-252 packages.

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### The DIODES™ Advantage

**Rectifiers optimized for PFC raise system efficiency in popular boost converter configurations.**

- **Reduced Losses Through Low  $V_F$  and Fast Recovery**  
Improves power efficiency, reducing running costs
- **High Forward Surge Current (IFSM)**  
Robust design improves system reliability
- **Soft Recovery Behavior Reducing EMI**  
Saves space by reducing passive component count
- **Ultra-Low Leakage Current**  
Reduces reverse losses
- **Low Thermal Resistance**  
Reduced cooling budget

### Applications

- AC-DC PSUs
- Offline lighting
- PC/server PSUs
- Data centers
- Home appliances
- Office infrastructure & plug-in equipment
- Telecommunications

### Circuit Functions

- Boost diodes
- Reverse-polarity protection
- Electrical overstress protection
- Free-wheeling diodes
- Snubber circuits
- Full wave bridges
- Vienna bridgeless circuits

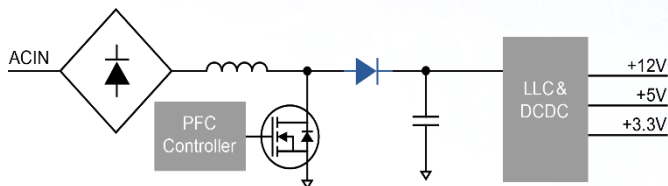


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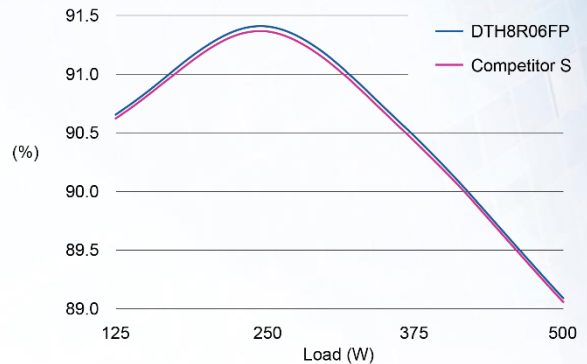
## DTH Series

### MURS Series

## Typical Application



## PSU Efficiency @ 230V



## Product Portfolio

Part Number	Package	V <sub>RRM</sub> (V)	I <sub>F</sub> (A)	V <sub>F</sub> @ T <sub>A</sub> = 25°C		I <sub>R</sub> @ T <sub>A</sub> = 125°C		I <sub>R</sub> @ T <sub>A</sub> = 25°C	t <sub>RR</sub> Typ (ns)	t <sub>RR</sub> Max (ns)	I <sub>FSM</sub> (A)	Competitor Cross Reference
				Typ (V)	Max (V)	Typ (μA)	Max (μA)	Max (μA)				
<a href="#">MURS160A</a>	SMA	600	1	1.03	1.25	13*	150*	5	25	50	35	-
<a href="#">MURS160</a>	SMB	600	1	1.03	1.25	13*	150*	5	25	50	35	MURS160
<a href="#">MURS360B</a>	SMB	600	3	1.05	1.25	33*	150*	5	35	50	100	MURS360B
<a href="#">MURS360</a>	SMC	600	3	1.05	1.25	33*	150*	5	35	50	100	MURS360
<a href="#">MURS460C</a>	SMC	600	4	1.15	1.28	35*	250*	10	35	50	110	-
<a href="#">DTH8E06D</a>	TO-220AC	600	8	2.4	2.9	35	400	30	18	25	125	STTH8R06D
<a href="#">DTH8E06FP</a>	ITO-220AC	600	8	2.4	2.9	35	400	30	18	25	125	STTH8R06FP
<a href="#">DTH8L06D</a>	TO-220AC	600	8	1.1	1.3	13	200	8	41	70	120	STTH8L06D
<a href="#">DTH8L06DNC</a>	TO-252	600	8	1.2	1.3	13	200	8	41	70	120	STTH8L06G
<a href="#">DTH8L06FP</a>	ITO-220AC	600	8	1.1	1.3	15	200	8	46	70	120	STTH8L06FP
<a href="#">DTH8R06D</a>	TO-220AC	600	8	2.4	2.9	35	400	30	18	25	80	STTH8R06D
<a href="#">DTH8R06D1</a>	TO-252	600	8	2.4	2.9	35	400	30	18	25	80	-
<a href="#">DTH8R06FP</a>	ITO-220AC	600	8	2.4	2.9	35	400	30	18	25	80	STTH8R06FP
<a href="#">DTH8S06D</a>	TO-220AC	600	8	2.7	3.4	92	200	15	16	21	70	STTH8S06D
<a href="#">DTH8S06FP</a>	ITO-220AC	600	8	2.7	3.4	92	200	15	16	21	70	STTH8S06FP
<a href="#">DTH1206D</a>	TO-220AC	600	12	2.4	2.9	30	600	45	21	30	120	STTH12R06D
<a href="#">DTH1206FP</a>	ITO-220AC	600	12	2.4	2.9	30	600	45	21	30	120	STTH12R06FP
<a href="#">DTH3006D</a>	TO-220AC	600	30	2.1	2.4	86	1,000	100	26	45	350	STTH3006W
<a href="#">DTH3006FP</a>	ITO-220AC	600	30	2.1	2.4	86	1,000	100	26	45	350	-
<a href="#">DTH3006PT</a>	TO-247-2L	600	30	2.1	2.4	86	1,000	100	26	45	350	-
<a href="#">DTH810D</a>	TO-220AC	1,000	8	1.5	2	16	200	5	65	85	80	STTH810D
<a href="#">DTH810FP</a>	ITO-220AC	1,000	8	1.5	2	16	200	5	65	85	80	STTH810FP

Note: \* @ T<sub>A</sub>=150°C



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## DTH Series

## MURS Series

### Ordering Information

Orderable Part Number	Package	Packing	
		Quantity	Carrier
<a href="#">MURS160A-13</a>	SMA	5,000 Pieces	Tape & Reel
<a href="#">MURS160-13-F</a>	SMB	3,000 Pieces	Tape & Reel
<a href="#">MURS360B-13-F</a>	SMB	3,000 Pieces	Tape & Reel
<a href="#">MURS360-13</a>	SMC (Type C)	3,000 Pieces	Tape & Reel
<a href="#">MURS460C-13-F</a>	SMC (Type C)	3,000 Pieces	Tape & Reel
<a href="#">DTH8E06D</a>	TO220AC (Type WX)	50 Pieces	Tube
<a href="#">DTH8E06FP</a>	ITO220AC (Type WX)	50 Pieces	Tube
<a href="#">DTH8L06D</a>	TO220AC (Type WX)	50 Pieces	Tube
<a href="#">DTH8L06DNC</a>	TO252 (Type WX)	2,500 Pieces	Tape & Reel
<a href="#">DTH8L06FP</a>	ITO220AC (Type WX)	50 Pieces	Tube
<a href="#">DTH8R06D</a>	TO220AC (Type WX)	50 Pieces	Tube
<a href="#">DTH8R06D1-13</a>	TO252 (Type WX)	2,500 Pieces	Tape & Reel
<a href="#">DTH8R06FP</a>	ITO220AC (Type WX)	50 Pieces	Tube
<a href="#">DTH8S06D</a>	TO220AC (Type WX)	50 Pieces	Tube
<a href="#">DTH8S06FP</a>	ITO220AC (Type WX)	50 Pieces	Tube
<a href="#">DTH1206D</a>	TO220AC (Type WX)	50 Pieces	Tube
<a href="#">DTH1206FP</a>	ITO220AC (Type WX)	50 Pieces	Tube
<a href="#">DTH3006D</a>	TO220AC (Type WX)	50 Pieces	Tube
<a href="#">DTH3006FP</a>	ITO220AC (Type WX)	50 Pieces	Tube
<a href="#">DTH3006PT</a>	TO247-2L (Type HE)	30 Pieces	Tube
<a href="#">DTH810D</a>	TO220AC (Type WX)	50 Pieces	Tube
<a href="#">DTH810FP</a>	ITO220AC (Type WX)	50 Pieces	Tube