

# 200 V Automotive-grade Hyper Fast Recovery Rectifiers

MER & MSR Series - High Efficiency & High Junction Temperature

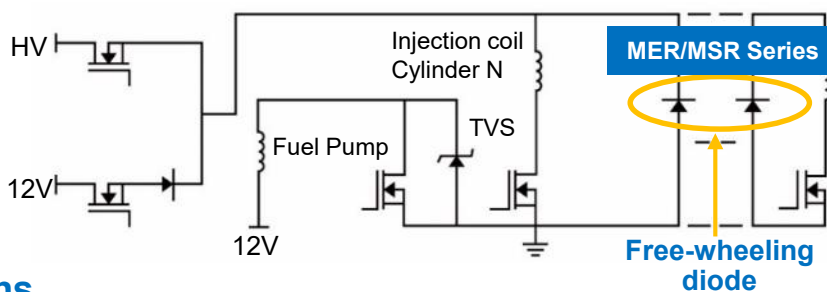


MER & MSR series are designed with the most advanced planar constructions to deliver faster reverse recovery time; which reduce switching loss while improving operating efficiency. The soft recovery characteristic further reduces EMI. With high junction temperature of 175°C, both series are aging-resistant. They are optimal for applications with high-temperature environments and require high-reliability.

## ► Features

- AEC-Q101 qualified\*
- Planar construction
- Fast reverse recovery time ( $T_{RR}$ )
- Low reverse recovery charge ( $Q_{RR}$ )
- Low switching loss
- Low leakage current
- 175°C operating junction temperature

## ► Electronic Control Unit Application Circuit Example



## ► Applications



### Power System

- Telecom Power
- Server Power
- PC Power



### Automotive

- Engine Control Unit
- Oil & Water Pump
- Lighting System
- BMS



### Industrial

- PV Control Unit
- LED Lighting
- UPS



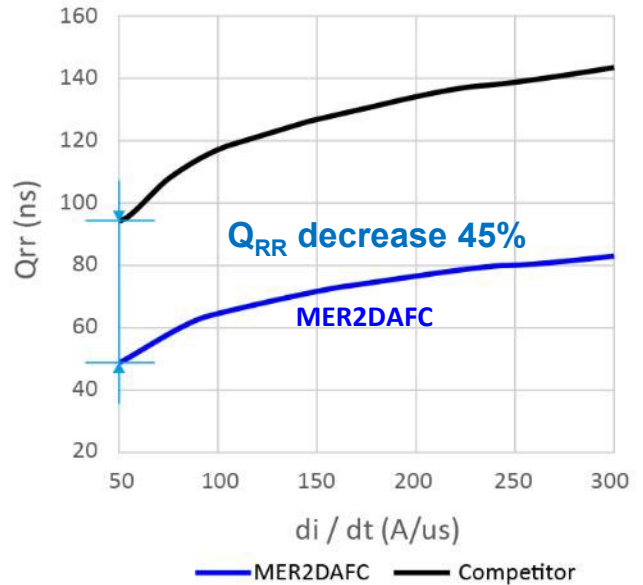
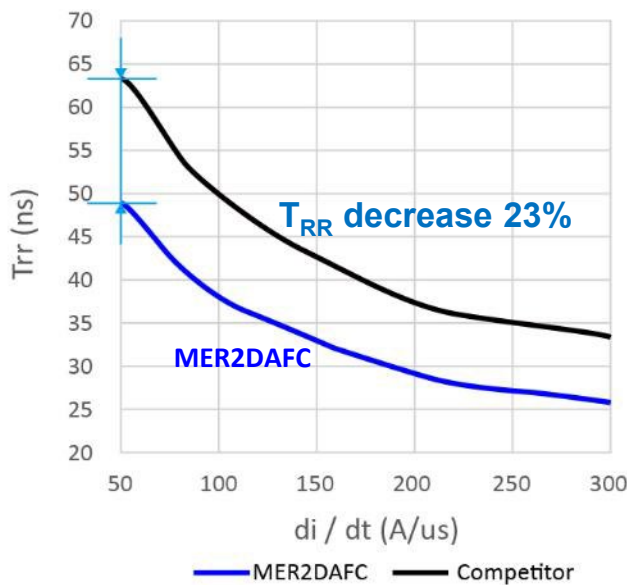
### Consumer

- Home Appliance
- Lighting
- Router













## Switching Performance

Test Condition :  $I_F=2\text{ A}$  ,  $V_R=200\text{ V}$  ,  $T_j=125^\circ\text{C}$



## Products

$V_{RRM}$	$I_F$	$V_F$	$I_R$	$T_{RR}$						
[V]	[A]	[V]	[ $\mu\text{A}$ ]	[ns]	<b>SOD-123FL</b>	<b>SOD-123HE</b>	<b>SMAF-C</b>	<b>SMBF</b>	<b>SMA</b>	<b>SMB</b>
<b>200</b>	1	<a href="#">0.95@1 A</a>	1	20	MSR1DAL MSR1DAL-AU	MSR1DAH MSR1DAH-AU	MSR1DAFC MSR1DAFC-AU	-	MSR1DMA MSR1DMA-AU	MSR1DMB MSR1DMB-AU
	2	<a href="#">0.95@2 A</a>	1	20	MSR2DAL MSR2DAL-AU	MSR2DAH MSR2DAH-AU	MSR2DAFC MSR2DAFC-AU	-	MSR2DMA MSR2DMA-AU	MSR2DMB MSR2DMB-AU
	1	<a href="#">0.95@1 A</a>	1	35	-	MER1DAH MER1DAH-AU	MER1DAFC MER1DAFC-AU	-	MER1DMA MER1DMA-AU	MER1DMB MER1DMB-AU
	2	<a href="#">0.95@2 A</a>	1	35	MER2DAL MER2DAL-AU	MER2DAH MER2DAH-AU	MER2DAFC MER2DAFC-AU	MER2DBF MER2DBF-AU	MER2DMA MER2DMA-AU	MER2DMB MER2DMB-AU
	3	<a href="#">0.95@3 A</a>	1	35	-	MER3DAH MER3DAH-AU	MER3DAFC MER3DAFC-AU	MER3DBF MER3DBF-AU	MER3DMA MER3DMA-AU	MER3DMB MER3DMB-AU

$V_{RRM}$	$I_F$	$V_F$	$I_R$	$T_{RR}$				
[V]	[A]	[V]	[ $\mu\text{A}$ ]	[ns]	<b>TO-220AC</b>	<b>ITO-220AC</b>	<b>TO-220AB</b>	<b>ITO-220AB</b>
<b>200</b>	5/10	<a href="#">0.95@5 A</a>	1	35	MER502T	MER502FT	MER1002CT	MER1002FCT
	8/16	<a href="#">0.95@8 A</a>	1	35	MER802T	MER802FT	MER1602CT	MER1602FCT
	10/20	<a href="#">0.95@0 A</a>	1	35	MER1002T	MER1002FT	MER2002CT	MER2002FCT

\*Product numbers ending in -AU are AEC-Q101 qualified