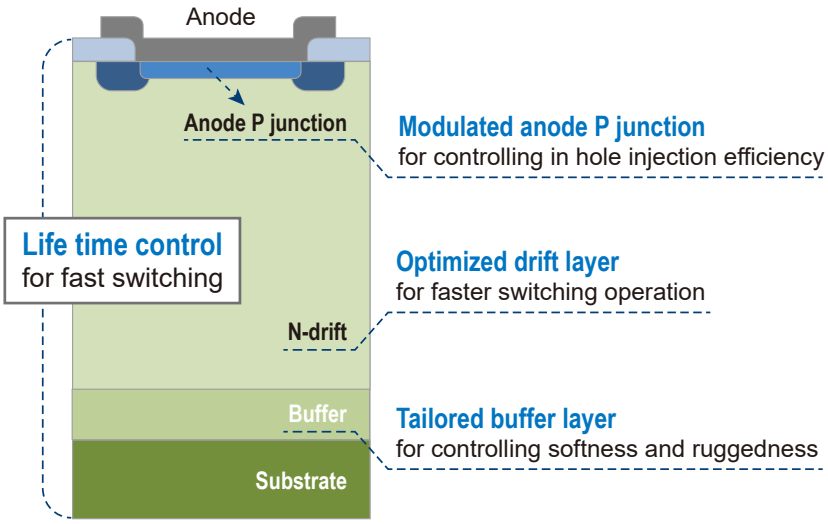
High Voltage FRED

Best Trade-Off Performance FRED for Maximizing System Efficiency

Features

- Best trade-off on V_f & T_{rr}
- Low leakage current
- Soft recovery characteristic for better EMI
- Best efficiency achievable
- Best combination with power switches



Target Application

Consumer

- Home Appliance
- Digital TV

Power System

- PSU for Network
- Server Power
- Data Center
- PC Power

Green Energy

- PV Inverter
- ESS / BMS

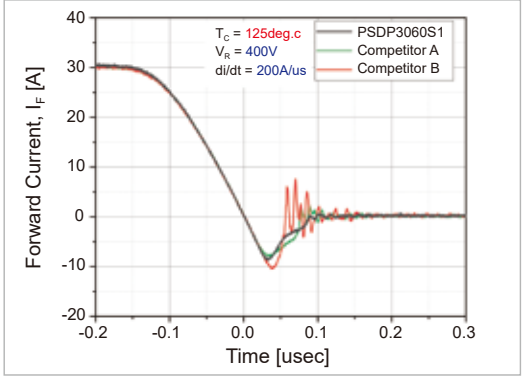
Industrial

- UPS
- Welder
- Industrial Motor

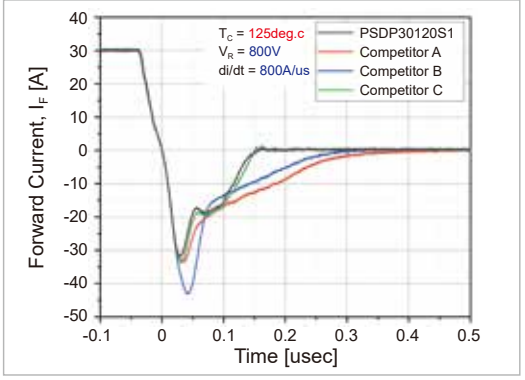
Performance

Reverse recovery characteristics

FRED 600V / 30A



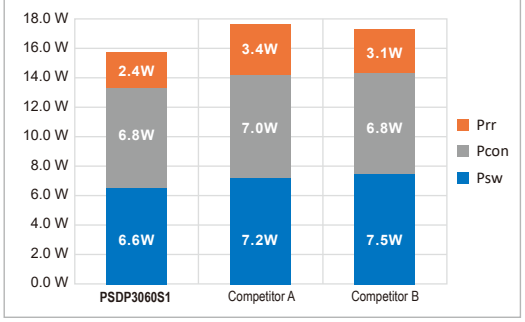
FRED 1200V / 30A



Power Loss Simulation

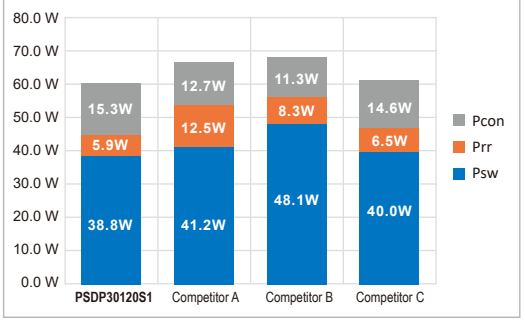
FRED 600V / 30A

CCM Boost PFC Power Losses @ 2kW, Fsw =30kHz



FRED 1200V / 30A

Vienna PFC Power Losses @ 6.7kW, Fsw =32.5kHz



FRED Line-Up

Optima FRED (Low V_f) : Minimize Conduction Loss

Speedy FRED (Low T_{rr}) : Minimize Switching Loss

Series	BV (V)	I_f (A)	V_f Typ. (V)	T_{rr} Typ. (ns)	TO-220AC	ITO-220AC	D²PAK	TO-247-2LD	TO-247-3LD
600V FRED Optima (Low Vf)	600	8	1.3	60	PSDP0860L1	PSDF0860L1	PSDB0860L1		
		15	1.3	70	PSDP1560L1	PSDF1560L1	PSDB1560L1		
		30	1.3	75	PSDP3060L1	PSDF3060L1	PSDB3060L1	PSDH3060L1	
			1.3	70					PSDH3060CCL1
		60	1.25	135				PSDH6060L1	
			1.3	75					PSDH6060CCL1
600V FRED Speedy (Low Trr)		8	1.8	35	PSDP0860S1	PSDF0860S1	PSDB0860S1		
		15	1.8	42	PSDP1560S1	PSDF1560S1	PSDB1560S1		
		30	1.8	45	PSDP3060S1	PSDF3060S1	PSDB3060S1	PSDH3060S1	
			1.8	42					PSDH3060CCS1
		60	1.65	55				PSDH6060S1	
			1.8	45					PSDH6060CCS1
1000V FRED Speedy (Low Trr)	1000	30	2.65	95				PSDH30100S1	
1200V FRED Optima (Low Vf)	1200	8	2.1	70	PSDP08120L1				
		15	2.1	105	PSDP15120L1				
		30	2.1	160	PSDP30120L1			PSDH30120L1	
		60	2.0	220				PSDH60120L1	
1200V FRED Speedy (Low Trr)		8	3.0	45	PSDP08120S1				
		15	3.0	70	PSDP15120S1				
		30	3.0	135	PSDP30120S1			PSDH30120S1	
		60	2.7	170				PSDH60120S1	

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