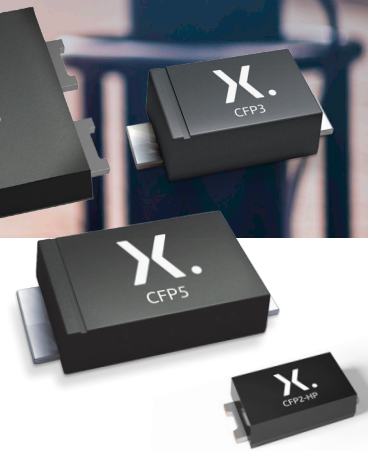


Schottky rectifiers in CFP

Small on size – big on power

Ideal for automotive, industrial, consumer and computing applications, our Schottky rectifier portfolio in CFP (Clip Flat Power) packages meets the challenging demands of efficient and space-saving designs. Clip-bonded FlatPower (CFP) packages with high power capabilities offer a true alternative to SMA / SMB / SMC, with better thermal performance, on a given footprint.

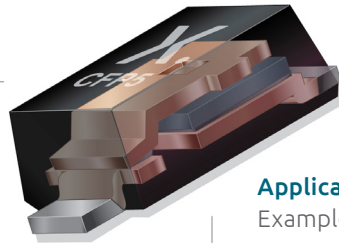


High-performance, broad range

- › Three product groups and four package types ensure the best fit for your power circuitry
- › V_R max: 20-100 V; I_F max: 1-20A
- › Very low forward voltage drop and low leakage for highest efficiency
- › Junction temperature up to 175 °C
- › AEC-Q101 qualified

Advanced CFP packaging

- › Solid copper clip and high peak current capability
- › Reduced package inductance for improved switching behavior
- › Innovative silicon and reduced package resistance for better electrical performance



Space-saving and future-proof

- › Small, thin and light design
- › Secure supply in high volumes
- › Continuous package and portfolio innovation
- › Replacements for previous-generation SMx-packaged devices

Applications

Examples include:

High-efficiency (Low V_F)

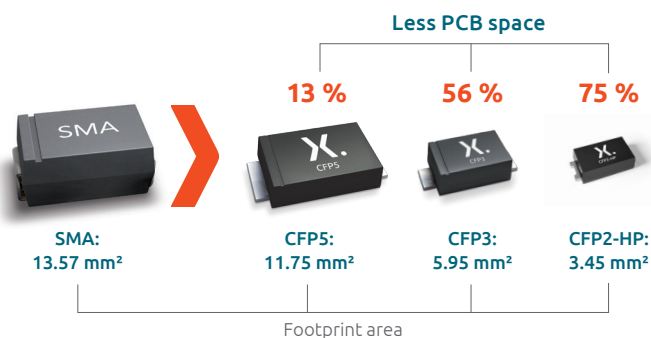
- › Chargers and battery-powered equipment
- › Electric vehicles

High thermal stability (Ultra-low I_R)

- › High-temperature automotive applications (e.g transmission, engine control units)

High-speed switching (Low Q_{rr})(Trench)

- › LED backlighting in displays
- › Powertrain systems in hybrid vehicles
- › Switched mode power supplies
- › LED vehicle lighting



nexperia

EFFICIENCY WINS.

Select the right rectifier to meet your circuit design's requirements

Product group	V_R max (V)	I_F max (A)	Benefits	Examples of use
Low V_F Schottky rectifiers (Planar)	20-60	1-15	Optimized for lowest conduction losses, deliver the highest efficiency through lowest forward voltage	Reverse polarity protection Cost-efficient DC/DC buck converters
Ultra-low I_R Schottky rectifiers (Planar)	60-100	1-10	Ultra-low reverse current and best in class operating temperature ensure highest robustness against thermal run away	DC/DC buck and boost conversion at high ambient temperatures
Low Q_{rr} Schottky rectifiers (Trench)	40-100	1-20	Combine low reverse current, very low Q_{rr} and low forward voltage to enable best efficiency at high switching speeds	Polarity and back drive protection Blocking and or-ing High-frequency DC/DC conversion Switched mode power supplies

Four packages for the right space / performance ratio



CFP2-HP (SOD323HP)

2.2 x 1.3 x 0.68 mm*

$R_{th(j-sp)} = 6 \text{ K/W}$



CFP3 (SOD123W)

2.6 x 1.7 x 1.0 mm*

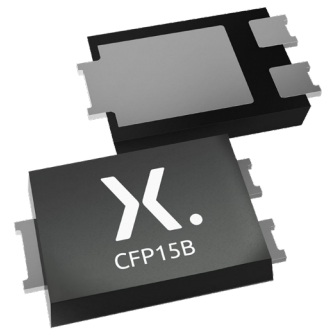
$R_{th(j-sp)} = 18 \text{ K/W}$



CFP5 (SOD128)

3.8 x 2.5 x 1.0 mm*

$R_{th(j-sp)} = 12 \text{ K/W}$



CFP15B (SOT1289B)






5.8 x 4.3 x 0.78 mm*

$R_{th(j-sp)} = 3 \text{ K/W}$

*Body size (l x w x h)

Power Schottky rectifiers - clip-bond packages






Types in **bold** represent new products

				Automotive-qualified						
I _F max (A)	V _R max (V)	V _F max (mV) @ I _F max	I _R max (mA) @ V _R max	Package	CFP15 (SOT1289)	CFP15B (SOT1289B)	CFP5 (SOD128)	CFP3 (SOD123W)	CFP2-HP (SOD323HP)	
										
					Size (mm)	5.8 x 4.3 x 0.78	5.8 x 4.3 x 0.95	3.8 x 2.5 x 1.0	2.6 x 1.7 x 1.0	2.2 x 1.3 x 0.68
					P _{tot} (mW) @ 1 cm ²	2150	2150	1200	1150	1200
					Optimization					
1	20	340	1	Low V _F				PMEG2010ER(-Q)		
		450	0.05	Low I _R				PMEG2010BER(-Q)		
	30	360	1.5	Low V _F			PMEG3010EP(-Q)	PMEG3010ER(-Q)		
		450	0.05	Low I _R			PMEG3010BEP(-Q)	PMEG3010BER(-Q)		
	40	490	0.05	Low V _F			PMEG4010EP(-Q)	PMEG4010ER(-Q)		
				Low V _F			PMEG4010ETP(-Q)	PMEG4010ETR(-Q)		
	45	460	0.022	Low V _{FR} Low Q _{rr}				PMEG40T10ER(-Q) ¹⁾		
		520	0.02	Low V _{FR} Low Q _{rr}					PMEG45T10EXD(-Q)¹⁾	
	60	530	0.06	Low V _F			PMEG6010EP(-Q)	PMEG6010ER(-Q)		
				Low V _F				PMEG6010ETR(-Q)		
		590	0.0008	Low I _R Low Q _{rr}			PMEG60T10ELP(-Q) ¹⁾			
		600	0.00065	Low I _R Low Q _{rr}				PMEG60T10ELR(-Q) ¹⁾		
		640	0.0004	Low I _R Low Q _{rr}					PMEG60T10ELXD(-Q)	
	100	660	0.0003	Low I _R				PMEG6010ELR(-Q)		
		750	0.0009	Low I _R Low Q _{rr}				PMEG100T10ELR(-Q) ¹⁾		
770		0.00015	Low I _R				PMEG10010ELR(-Q)			
2	30	795	0.0005	Low I _R Low Q _{rr}					PMEG100T10ELXD(-Q)	
		360	3	Low V _F			PMEG3020EP(-Q)			
		420	1.5	Low V _F			PMEG3020CEP(-Q)	PMEG3020ER(-Q)		
		450	0.1	Low I _R			PMEG3020BEP(-Q)			
	40	520	0.05	Low I _R			PMEG3020DEP(-Q)	PMEG3020BER(-Q)		
				Low V _F			PMEG4020EP(-Q)	PMEG4020ER(-Q)		
	45	515	0.022	Low V _{FR} Low Q _{rr}			PMEG4020ETP(-Q)	PMEG4020ETR(-Q)		
		560	0.025	Low V _{FR} Low Q _{rr}			PMEG40T20EP(-Q) ¹⁾	PMEG40T20ER(-Q) ¹⁾	PMEG45T20EXD(-Q)¹⁾	
	60	530	0.2	Low V _F			PMEG6020EP(-Q)	PMEG6020ER(-Q)		
				Low V _F			PMEG6020ETP(-Q)	PMEG6020ETR(-Q)		
		620	0.0012	Low I _R Low Q _{rr}			PMEG60T20ELP(-Q) ¹⁾	PMEG60T20ELR(-Q) ¹⁾		
		670	0.0007	Low I _R			PMEG6020AELP(-Q)	PMEG6020AELR(-Q)		
		700	0.00047	Low I _R Low Q _{rr}					PMEG60T20ELXD(-Q)	
	100	760	0.0003	Low I _R				PMEG6020ELR(-Q)		
		800	0.00125	Low I _R Low Q _{rr}			PMEG100T20ELP(-Q)¹⁾	PMEG100T20ELR(-Q) ¹⁾		
770		0.0003	Low I _R			PMEG10020AELP(-Q)	PMEG10020AELR(-Q)			
830		0.00015	Low I _R				PMEG10020ELR(-Q)			
3	30	880	0.0006	Low I _R Low Q _{rr}					PMEG100T20ELXD(-Q)	
		360	5	Low V _F			PMEG3030EP(-Q)			
		450	0.15	Low I _R			PMEG030V030EPE(-Q)	PMEG3030BEP(-Q)		
	40	490	0.12	Low V _F			PMEG040V030EPE(-Q)			
				Low V _F			PMEG4030EP(-Q)			
	45	525	0.028	Low V _{FR} Low Q _{rr}			PMEG4030ETP(-Q)	PMEG40T30EP(-Q) ¹⁾		
		540	0.1	Low I _R				PMEG4030ER(-Q)		
	50			Low I _R				PMEG4030ETR(-Q)		
		480	0.044	Low V _{FR} Low Q _{rr}	PMEG045T030EPD ¹⁾					
	60	530	0.1	Low V _F			PMEG050V030EPE(-Q)			
		475	0.4	Low V _F				PMEG6030EVP(-Q)		
		530	0.2	Low V _F			PMEG060V030EPE(-Q)	PMEG6030EP(-Q)		
		620	0.0018				PMEG6030ETP(-Q)			
		670	0.001	Low I _R			PMEG60T030ELPE(-Q) ¹⁾	PMEG60T30ELP(-Q) ¹⁾	PMEG60T30ELR(-Q) ¹⁾	
	100	710	0.0025	Low I _R Low Q _{rr}				PMEG6030ELP(-Q)		
800		0.00175	Low I _R Low Q _{rr}				PMEG100T30ELP(-Q)¹⁾	PMEG100T30ELR(-Q) ¹⁾		
770		0.00045	Low I _R				PMEG10030ELP(-Q)			
4.5	60	710	0.0025	Low I _R Low Q _{rr}			PMEG100T030ELPE(-Q) ¹⁾			
		620	0.0012	Low I _R Low Q _{rr}			PMEG060T040CLPE(-Q) ¹⁾			
	30	530	0.4	Low V _F				PMEG6045ETP(-Q)		
		360	8	Low V _F				PMEG3050EP(-Q)		
	40	450	0.25	Low I _R				PMEG3050BEP(-Q)		
		500	0.15	Low V _F			PMEG030V050EPE(-Q)			
	45	490	0.3	Low V _F				PMEG4050EP(-Q)		
				Low V _F				PMEG4050ETP(-Q)		
	50	520	0.12	Low V _F			PMEG040V050EPE(-Q)			
		525	0.041	Low V _{FR} Low Q _{rr}				PMEG40T50EP(-Q) ¹⁾		
	60	490	0.3	Low V _F			PMEG045V050EPE(-Q)			
		525	0.044	Low V _{FR} Low Q _{rr}	PMEG045T050EPD ¹⁾					
	100	560	0.4	Low V _F			PMEG060V050EPE(-Q)			
		690	0.0018	Low I _R Low Q _{rr}			PMEG60T050ELPE(-Q) ¹⁾	PMEG60T50ELP(-Q) ¹⁾		
		895	0.00175	Low I _R Low Q _{rr}				PMEG100T50ELP(-Q)¹⁾		
810	0.0025	Low I _R Low Q _{rr}			PMEG100T050ELPE(-Q) ¹⁾					

¹⁾ Trench Schottky technology

Power Schottky rectifiers - clip-bond packages

Types in **bold** represent new products

I _F max (A)	V _R max (V)	V _F max (mV) @ I _F max	I _R max (mA) @ V _R max	Package	Automotive-qualified					
					CFP15 (SOT1289)	CFP15B (SOT1289B)	CFP5 (SOD128)	CFP3 (SOD123W)	CFP2-HP (SOD323HP)	
										
					Size (mm)	5.8 x 4.3 x 0.78	5.8 x 4.3 x 0.95	3.8 x 2.5 x 1.0	2.6 x 1.7 x 1.0	2.2 x 1.3 x 0.68
					P _{tot} (mW) @ 1 cm ²	2150	2150	1200	1150	1200
Optimization										
2x3	60	620	0.0018	Low I _R , Low Q _{rr}		PMEG060T060CLPE(-Q) ¹⁾				
6	100	840	0.00045	Low I _R		PMEG100V060EPE(-Q)				
2x4	60	660	0.0018	Low I _R , Low Q _{rr}		PMEG060T080CLPE(-Q) ¹⁾				
8	100	850	0.0005	Low I _R		PMEG100V080EPE(-Q)				
		810	0.004	Low I _R , Low Q _{rr}		PMEG100T080ELPE(-Q) ¹⁾				
2x5	60	690	0.0018	Low I _R , Low Q _{rr}		PMEG060T100CLPE(-Q) ¹⁾				
10	45	490	0.6	Low V _F		PMEG045V100EPE(-Q)				
		540	0.5	Low V _F		PMEG045V100EIP(-Q)				
		545	0.08	Low V _F , Low Q _{rr}		PMEG045T100EPE(-Q) ¹⁾				
	60	560	0.7	Low V _F		PMEG060V100EPE(-Q)				
		850	0.0008	Low I _R		PMEG100V100EPE(-Q)				
100	810	0.005	Low I _R , Low Q _{rr}		PMEG100T100ELPE(-Q) ¹⁾					
	810	0.006	Low I _R , Low Q _{rr}		PMEG100T120ELPE ¹⁾					
15	45	490	1	Low V _F						
		550	0.1	Low V _F , Low Q _{rr}	PMEG045T150EPD ¹⁾					
		580		Low V _F , Low Q _{rr}	PMEG45T15EPD ¹⁾					
	570	0.098	Low V _F , Low Q _{rr}	PMEG045T150EIPD ¹⁾						
	50	500	1	Low V _F						
550		0.1	Low V _F , Low Q _{rr}	PMEG050T150EPD ¹⁾						
	570	0.2	Low V _F , Low Q _{rr}	PMEG050T150EIPD ¹⁾						
100	820	0.008	Low I _R , Low Q _{rr}		PMEG100T150ELPE ¹⁾					
20	100	830	0.01	Low I _R , Low Q _{rr}		PMEG100T200ELPE ¹⁾				

¹⁾ Trench Schottky technology

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