Automotive

Recovery rectifiers

Hyperfast recovery, space-saving devices

Nexperia's recovery rectifiers deliver high power density while minimizing reverse recovery time and loss. For efficient switching and power conversion applications in automotive, industrial and consumer markets.

Portfolio

- 200–400 V **Hyperfast** switching parts with optimized recovery time (trr) of < 30 ns
- High speed switching capability
- Low voltage drop (VF @ $I_{F\ max}$ ~ 1 V)
- Low leakage current, also at high temperature
- AEC-Q101 qualified parts (175 °C $T_{J\ (max)}$)

Economical use of space

CFP3 (SOD123W)
2.6 x 1.7 x 1.0 mm*
$R_{th(j\text{-}sp)}$ = 18 K/W

CFP5 (SOD128)
3.8 x 2.5 x 1.0 mm*
$R_{th(j\text{-}sp)}$ = 12 K/W

CFP15B (SOT1289B)
5.8 x 4.3 x 0.95 mm*
$R_{th(j\text{-}sp)}$ = 3 K/W

- Just 1 mm package height for thin PCB designs
- More than 50% footprint savings - CFP3 compared to SMA

*Body size (l x w x h)

Robust & thermally efficient

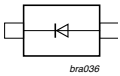
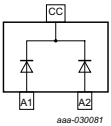
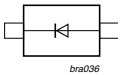
- High current pulse capability due to solid copper clip-bond
- High power density / high efficiency planar technology
- Low magnetic inductance optimizes switching behavior

Key applications

- Polarity protection
- DC/DC conversion
- AC/DC conversion
- Freewheeling of inductive load
- Standard switching application
- High-speed switching application
- Solenoid control
- Piezo injection

nexperia

Recovery rectifiers

V_R max (V)	V_F max (V)	(@) I_F (A)	I_R max (µA)	(@) V_R (V)	trr max (ns)	Package	Automotive-qualified		
							CFP5 (SOD128)	CFP3 (SOD123W)	CFP15B (SOT1289B)
									
						Size (mm)	3.8 x 2.5 x 1.0	2.6 x 1.7 x 1.0	5.8 x 4.3 x 0.95
						P_{tot} (mW) @ 1cm²	1050	950	2150
200	0.93	1	0.2	200	25	 bra036		PNE20010ER	
	0.98	2	0.2	200	25			PNE20020ER	
	0.95	2	1	200	25		PNE20020EP		
	0.98	3	1	200	30		PNE20030EP		
	0.94	2x3	1	200	30	 aaa-030081			PNE20060CPE
	0.95	2x4	1	200	30				PNE20080CPE
	0.95	2x5	1	200	30				PNE200100CPE
400	1.1	1	1	400	1800	 bra036		PNS40010ER	

Date of release:
February 2020