



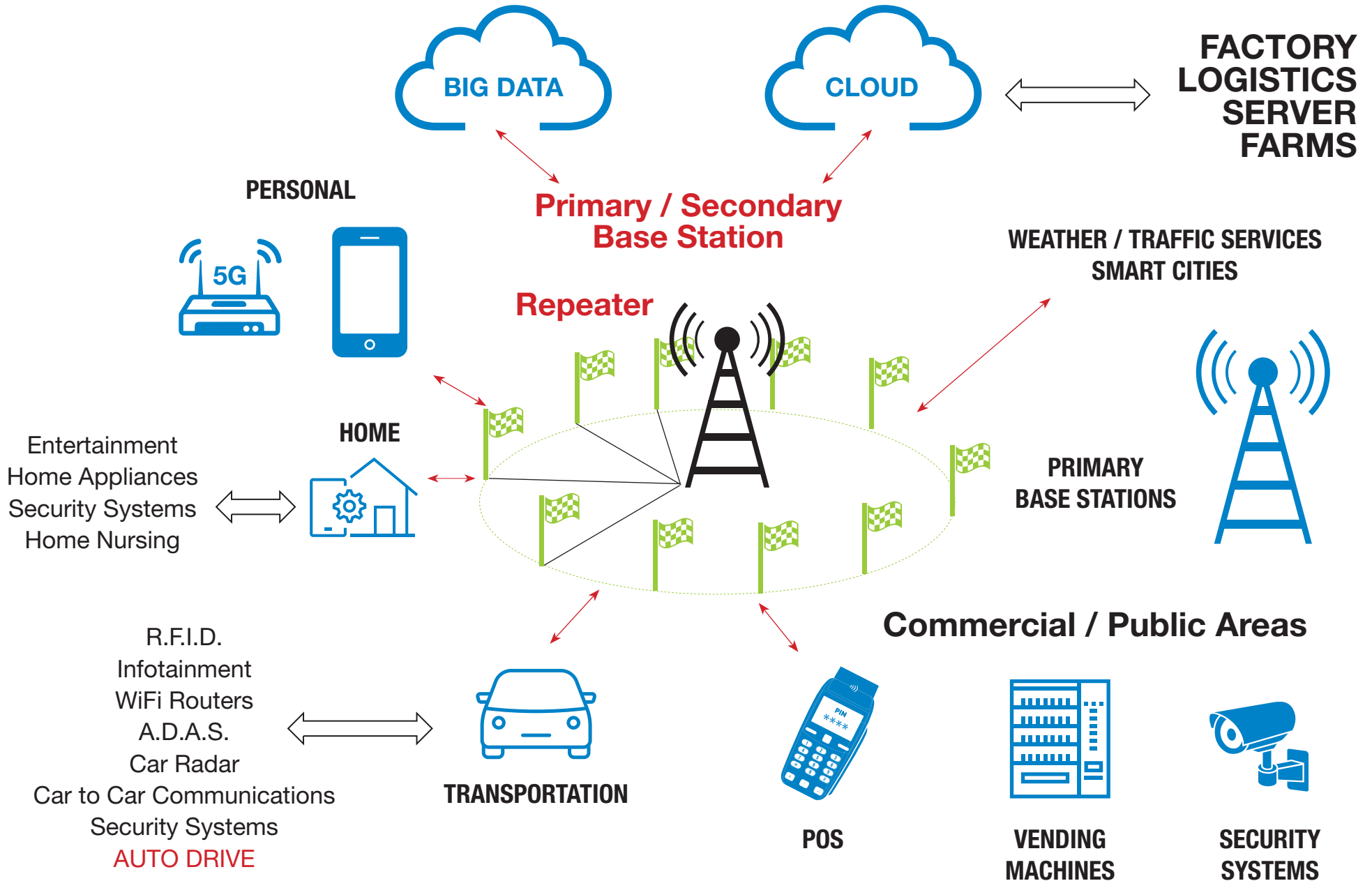
5G

APPLICATIONS

For Diodes
and Rectifiers



5G: THE WAY TO CONNECT EVERYTHING



5G APPLICATIONS

Diodes and Rectifiers



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5G BASE STATIONS

System Architecture (diagram)

High Current Density Bridge Rectifiers

Rectifiers

Schottky Rectifiers

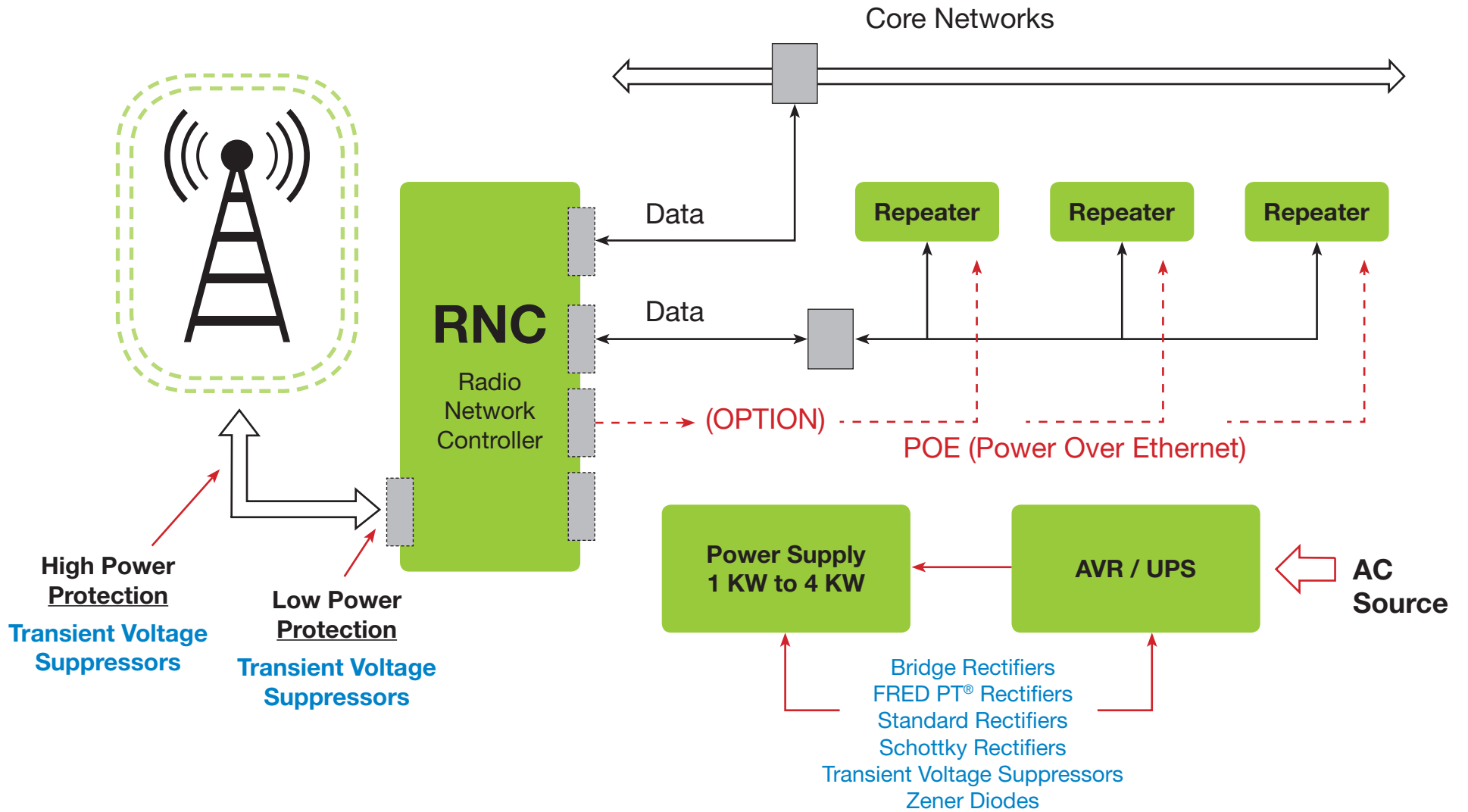
Low Voltage Rectifiers

Small Signal Switching Diodes

Small Signal Schottky Diodes

Small Signal Zener Diodes


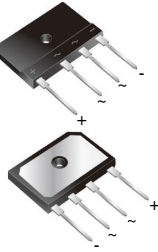
SYSTEM ARCHITECTURE





■ High current density bridge rectifiers in compact packages

- Low V_F and high forward surge current capability
- Improves system power efficiency

		$I_{F(AV)}$	V_{RRM}	V_F at 125 °C		I_{FSM} at 8.3 ms	Package
	LVB1560	15 A	600 V	0.73 V	7.5 A	400 A	GSIB-5S
	LVE1560	15 A	600 V	0.71 V	7.5 A	300 A	
	LVB2560	25 A	600 V	0.76 V	12.5 A	550 A	
	LVE2560	25 A	600 V	0.74 V	12.5 A	400 A	
	PB3010	30 A	1000 V	0.97 V	15 A	240 A	isoCink+™
	PB3510	35 A	1000 V	0.90 V	17.5 A	350 A	
	PB4010	40 A	1000 V	0.94 V	20 A	400 A	
	PB5010	45 A	1000 V	0.90 V	22.5 A	450 A	



■ Rectifiers in compact packages for auxiliary functions (snubber, clamp, bootstrap, rectifier, etc.)

- Increased power density for space savings
- Improved recovery for better EMC

		$I_{F(AV)}$	V_{RRM}	Package			$I_{F(AV)}$	V_{RRM}	Package
	VS-1EFU06-M3	1 A	600 V	SMF (DO-219AB)		AU1PK	1 A	800 V	SMP (DO-220AA)
	VS-2EFU06-M3	2 A	600 V	SMF (DO-219AB)					
	VS-3EJU06-M3	3 A	600 V	SlimSMA (DO-221AC)		AU2PK	2 A	800 V	SMPC (TO-277A)
						AU3PK	3 A	800 V	SMPC (TO-277A)
	VS-6ESH06-M3	6 A	600 V	SMPC (TO-277A)		AU1PM	1 A	1000 V	SMP (DO-220AA)
							AU2PM	2 A	1000 V
					AU3PM		3 A	1000 V	SMPC (TO-277A)



- Schottky rectifiers in compact packages for sub-power in line cards
 - Increased power density for space savings

		I_F (AV)	V_{RRM}	V_F at I_F (Typ.)	Package
	VSKY20401608	2 A	40 V	0.51 V	CLP1608-2L
	MSS2P3	2 A	30 V	0.52 V	MicroSMP (DO-219AD)
	V3FL45	3 A	45 V	0.50 V	SMF (DO-219AB)
	V3PM6	3 A	60 V	0.55 V	SMP (DO-220AA)
	VSSAF5M6	5 A	60 V	0.58 V	SlimSMA (DO-221AC)
	VSS8D5M6	5 A	60 V	0.58 V	SlimSMAW (DO-221AD)
	V8PAM12	8 A	120 V	0.63 V at 4 A	SMPA (DO-221BC)

		I_F (AV)	V_{RRM}	V_F at I_F (Typ.)	Package
	V25PL60	25 A	60 V	0.46 V at 12.5 A	SMPC (TO-220A)
	V40PWM15C	20 A x 2	150 V	0.97 V at 10 A / diode	SlimDPAK (TO-252AE)
	V35PWM12	35 A	120 V	0.72 V at 17.5 A	
	V60DM120C	30 A x 2	120 V	0.68 V at 15 A / diode	SMPD (TO-263AC)
	V35DM120	35 A	120 V	0.73 V at 17.5 A	
	V30K45	30 A	45 V	0.54 V	FlatPAK 5 X 6



■ Low voltage rectifiers for bridgeless and multiphase bridgeless topologies


- Increased power density for space savings, improved efficiency

		I_F (AV)	V_{RRM}	Package
	VS-6EVL06-M3	6 A	600 V	SlimDPAK (TO-252AE)
	VS-8ETL06-M3	8 A	600 V	2L TO-220AC
	VS-8ETL06FP-N3	8 A	600 V	2L TO-220 FullPAK
	VS-8EVL06-M3	8 A	600 V	SlimDPAK (TO-252AE)
	VS-10CDU06HM3	2 x 5 A	600 V	SMPD (TO-263AC)
	VS-15ETL06-M3	15 A	600 V	2L TO-220AC
	VS-15ETL06FP-N3	15 A	600 V	2L TO-220 FullPAK


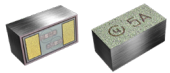
		I_F (AV)	V_{RRM}	Package
	VS-15EVL06-M3	15 A	600 V	SlimDPAK (TO-252AE)
	VS-16EDU06-M3	16 A	600 V	SMPD (TO-263AC)
	VS-E4TU2006FP-N3	20 A	600 V	2L TO-220 FullPAK
	VS-ETU3006-M3	30 A	600 V	2L TO-220AC
	VS-30CDU06-M3	2 x 15 A	600 V	SMPD (TO-263AC)
	VS-ETU3006FP-M3	30 A	600 V	2L TO-220 FullPAK






■ Small signal switching diodes in a compact package

		$I_{F(AV)}$	V_{RRM}	t_{rr}	Package
	BAS16WS	0.25 A	100 V	6 ns	SOD-323

■ Small signal schottky diodes in a compact package

		$I_{F(AV)}$	V_{RRM}	t_{rr}	Package
	BAS40	0.25 A	40 V	1 V at 40 mA	SOT-23
	VSKY02400603	0.20 A	40 V	0.475 V at 200 mA	CLP0603

■ Small signal zener diodes in a compact package

		P_d	V_z range (typ.)	Package
	PLZ Series	500 mW	2.0 V to 39 V	MicroSMF (DO-219AC)
	BZX384C Series	200 mW	2.4 V to 75 V	SOD-323
	BZX584C Series	200 mW	2.4 V to 51 V	SOD-523



5G REPEATERS

5G Repeaters (diagram)

Rectifiers / Transient Voltage Suppressors

Transient Voltage Suppressors



Schottky Rectifiers



■ Rectifiers for high di/dt snubbers in compact packages

		$I_F (AV)$	V_{RRM}	t_{tr}	Package
	VS-1EFU06-M3	1.0 A	600 V	55 ns	SMF (DO-219AB)
	VS-2EFU06-M3	2.0 A	600 V	55 ns	SMF (DO-219AB)
	AU1PK	1.0 A	800 V	75 ns	SMP (DO-220AA)
	AU1PM	1.0 A	1000 V	75 ns	SMP (DO-220AA)



■ 200 W to 600 W TVS for snubbers; low clamping ratios




		P_d	$V_{BR} (typ.)$	V_{WM}	Package
	P2SMA200A	200 W	190 V to 210 V	171 V	SMA (DO-214AC)
	P2SMA220A		209 V to 231 V	185 V	
	P4SMA180A	400 W	171 V to 189 V	154 V	
	P4SMA220A		209 V to 231 V	185 V	
	P6SMB180A	600 W	171 V to 189 V	154 V	SMB (DO-214AA)
	P6SMB200A		190 V to 210 V	171 V	



■ 1500 W to 5000 W TVS with high power density for lightning protection

■ 1500 W / 3000 W TVS with high power density for DC/DC protection

		P_d	V_{BR} (typ.)	V_{WM}	Package
	<u>SMPC54AN</u>	1500 W	63.2 V	54 V	SMPC (TO-277A)
	<u>1.5SMC91CA</u>		91 V	70.1 V	SMC (DO-214AB)
	<u>SMCJ75CA</u>	87.7 V	75 V		
	<u>SMC3K54CA</u>	3000 W	63.2 V	54 V	
	<u>SMC3K70CA</u>		81.9 V	70 V	
	<u>SMC3K75CA</u>	87.7 V	75 V		
	<u>SMC5K54A</u>	5000 W	63.2 V	54 V	
	<u>SMC5K78A</u>		91.3 V	78 V	

		P_d	V_{BR} (typ.)	V_{WM}	Package
	<u>SMCJ15A</u>	1500 W	17.6 V	15 V	SMC (DO-214AB)
	<u>SMCJ24CA</u>		28.1 V	24 V	
	<u>SMCJ33CA</u>		38.7 V	33 V	
	<u>SMCJ36A</u>		42.1 V	36 V	
	<u>1.5SMC39A</u>		39 V	33.3 V	
	<u>TPC24CA</u>		24 V	20.5 V	SMPC (TO-277A)
	<u>TPC36CA</u>		36 V	30.8 V	
	<u>SMC3K24CA</u>	3000 W	28.1 V	24 V	SMC (DO-214AB)



■ Schottky rectifiers in compact packages for auxiliary service and synchronous parallel rectification

		I_F (AV)	V_{RRM}	V_F at I_F (typ.)	Package
	<u>V1FM10</u>	1 A	100 V	0.69 V	SMF (DO-219AB)
	<u>VSKY20401608</u>	2 A	40 V	0.51 V	CLP1608-2L
	<u>V2FM10</u>	2 A	100 V	0.75 V	SMF (DO-219AB)
	<u>MSS2P3</u>	2 A	30 V	0.52 V	MicroSMP (DO-219AD)
	<u>V3FL45</u>	3 A	45 V	0.50 V	SMF (DO-219AB)
	<u>V3PM10</u>	3 A	100 V	0.55 V	SMP (DO-220AA)
	<u>VSSAF5M6</u>	5 A	60 V	0.58 V	SlimSMA (DO-221AC)
	<u>VSS8D5M6</u>	5 A	60 V	0.58 V	SlimSMAW (DO-221AD)

		I_F (AV)	V_{RRM}	V_F at I_F (typ.)	Package
	<u>V8PAM12</u>	8 A	120 V	0.63 V at 4 A	SMPA (DO-221BC)
	<u>V20DM120-M3</u>	20 A	120 V	0.77 V at 10 A	SMPD (TO-263AC)
	<u>V25PL60</u>	25 A	60 V	0.46 V at 12.5 A	SMPC (TO-220A)
	<u>V40PWM15C</u>	20 A x 2	150 V	0.97 V at 10 A / diode	SlimDPAK (TO-252AE)
	<u>V35PWM12</u>	35 A	120 V	0.72 V at 17.5 A	
	<u>V60DM120C</u>	30 A x 2	120 V	0.68 V at 15 A / diode	SMPD (TO-263AC)
	<u>V35DM120</u>	35 A	120 V	0.73 V at 17.5 A	
	<u>V30K45</u>	30 A	45 V	0.54 V	FlatPAK 5 X 6