Surface-Mount and Through-Hole Ultrafast Rectifiers, AEC-Q101 Qualified Available



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ULTRAFAST RECOVERY RECTIFIERS

FRED Pt®

Fast recovery epitaxial diodes (FRED Pt®) are based on Pt doping technology that allows maximum junction temperatures up to 175 °C. By providing a high level of flexibility in the device's V_F / Qrr ratio, FRED Pt® devices in plastic packages can be used in all major applications from 1 A up to 175 A. All the assembled parts use chips that can be offered as bare die. A full range of halogen-free components are also offered.

FRED Pt® AEC-Q101 qualified products have undergone part average testing (PAT) and statistical yield limit (SYL) analysis to ensure their electrical parameters meet the highest quality level for automotive applications. The parts use a dedicated die in the front-end operation and a dedicated part number at the back end, both selected with PAT and SYL statistical criteria, and are suitable for battery charging systems, EV / HEV vehicles, HID lighting, and other automotive applications.

FRED Pt® AEC-Q101 Qualified Products

$I_{F(AV)}$ (A)	Device[1]	Package		V_{RRM} (V)	V_F at I_F		I_R at V_{RRM} (uA)	T_{rr} (ns)*	I_{FSM} (A)	T_j Max. (°C)
		Family	Type		(V)	(A)				
1	**VS-1EFH01HM3/I**	Plastic SMD	SMF (DO-219AB)	100	0.74	1	2	25	35	175
1	**VS-1EFH02HM3/I**			200						175
1	**VS-1EFU06HM3/I**			600	0.83		3	55	30	175
1	VS-1EMH01HM3/5AT		SMA (DO-214AC)	100	0.68		2	25	50	175
1	VS-1EMH02HM3/5AT			200						175
1	**VS-1ENH01HM3/85A**		SMP (DO-220AA)	100	0.69			14	40	175
1	**VS-1ENH02HM3/85A**			200						175
1	**VS-1EQH01HM3/89A**		MicroSMP (DO-219AD)	100	0.72		1	13	30	175
1	**VS-1EQH02HM3/89A**			200					30	175
2	**VS-2EFH01HM3/I**		SMF (DO-219AB)	100	0.75	2	2	25	50	175
2	**VS-2EFH02HM3/I**			200						175
2	**VS-2EFU06HM3/I**			600	0.95		3	55	30	175
2	VS-2EGH02HM3_A/I		SMB (DO-214AA)	200	0.66		2	24	70	175
2	**VS-2EJH01HM3/6A**		SlimSMA (DO-221AC)	100	0.72			25	65	175
2	**VS-2EJH02HM3/6A**			200						175
2	VS-2EMH01HM3/5AT		SMA (DO-214AC)	100	0.75				50	175
2	VS-2EMH02HM3/5AT			200						175
2	**VS-2EYH01HM3/I**		SlimSMAW (DO-221AD)	100	0.69			22	60	175
2	**VS-2EYH02HM3/I**			200						175
2	**VS-2ENH01HM3/85A**		SMP (DO-220AA)	100	0.79			16	40	175
2	**VS-2ENH02HM3/85A**			200						175
2	**VS-2EQH01HM3/89A**		MicroSMP (DO-219AD)	100	0.82		1	19	30	175
2	**VS-2EQH02HM3/89A**			200						175
3	VS-3ECH01HM3/9AT		SMC (DO-214AB)	100	0.69	3	2	25	130	175
3	VS-3ECH02HM3/9AT			200						175
3	**VS-3EGU06WHM3/5BT**		SMB (DO-214AA)	600	0.99		3	41	55	175
3	**VS-3EJH01HM3/6A**		SlimSMA (DO-221AC)	100	0.74		2	30	85	175
3	**VS-3EJH02HM3/6A**			200						175
3	**VS-3EJU06HM3/6A**			600	0.99		3	45	43	175
3	**VS-3EYH01HM3/I**		SlimSMAW (DO-221AD)	100	0.71		2	22	70	175
3	**VS-3EYH02HM3/I**			200						175

Notes: (1) Bold = new products; (2) Dual center-tapped device (V_F limit at I_F is per diode)

*See datasheet for T_{rr} test conditions

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ULTRAFAST RECOVERY RECTIFIERS

FRED Pt®

FRED Pt® AEC-Q101 Qualified Products (cont.)

$I_{F(AV)}$ (A)	Device[1]	Package		V_{RRM} (V)	V_F at I_F		I_R at V_{RRM} (uA)	T_{rr} (ns)*	I_{FSM} (A)	T_j Max. (°C)
		Family	Type		(V)	(A)				
4	**VS-4CSH01HM3/86A**	Power Pack SMD [2]	SMPC (TO-277A)	100	0.75	2	2	24	90	175
4	**VS-4CSH02HM3/86A**			200						175
4	**VS-4ESH01HM3/86A**	Power Pack SMD		100	0.73	4		27	130	175
4	**VS-4ESH02HM3/86A**			200						175
4	VS-4EWH02FNHM3		DPAK (TO-252AA)		0.71		3	23	80	175
4	**VS-4EVH01HM3/I**		SlimDPAK (TO-252AE)	100				16	100	175
4	**VS-4EVH02HM3/I**			200						175
5	VS-5EWH06FNHM3		DPAK (TO-252AA)	600	1.3	5	5	18	70	175
6	**VS-6CSH01HM3/86A**	Power Pack SMD[2]	SMPC (TO-277A)	100	0.75	3	2	27	150	175
6	**VS-6CSH02HM3/86A**			200						175
6	VS-6CWH02FNHM3		DPAK (TO-252AA)		0.9		5	20	50	175
6	**VS-6ESH01HM3/86A**	Power Pack SMD	SMPC (TO-277A)	100	0.74	6	2	28	150	175
6	**VS-6ESH02HM3/86A**			200						175
6	**VS-6ESH06HM3/86A**			600	1.05		50	33	90	175
6	**VS-6ESU06HM3/86A**				0.95			42	120	175
6	VS-6EWH06FNHM3		DPAK (TO-252AA)		1.26			18	70	175
6	VS-6EWX06FNHM3				1.65		20	14	50	175
6	VS-MURD620CTHM3	Power Pack SMD [2]		200	0.78	3	5	20		175
6	**VS-6DKH02HM3/H**	Power Pack SMD	FlatPAK 5 x 6	200	0.71		2	25	173	175
6	**VS-6CVH01HM3/I**	Power Pack SMD [2]	SlimDPAK (TO-252AE)	100	0.75		5	20	140	175
6	**VS-6CVH02HM3/I**			200						175
6	**VS-6EVH06HM3/I**	Power Pack SMD		600	1.26	6	5	16	70	175
6	**VS-6EVL06HM3/I**				0.98			34	80	175
6	**VS-6EVX06HM3/I**				1.65			14	50	175
8	**VS-8DKH02HM3/H**		FlatPAK 5 x 6	200	0.7	4	2	25	173	175
8	**VS-8CSH01HM3/86A**	Power Pack SMD (2)	SMPC (TO-277A)	100	0.72				130	175
8	**VS-8CSH02HM3/86A**			200						175
8	VS-8CWH02FNHM3		DPAK (TO-252AA)		0.81		4	23	80	175
8	VS-8ETH06-1HM3	Plastic Power Pack	TO-262AA	600	1.3	8	50	18	90	175
8	**VS-8ETH03SHM3**	Power Pack SMD	D^2PAK (TO-263AB)	300	0.83		20	27	100	175
8	**VS-8ETH03-1HM3**	Plastic Power Pack	TO-262AA							175
8	**VS-8ETL06SHM3**	Power Pack SMD	D^2PAK (TO-263AB)	600	0.81		5	60	175	175
8	VS-8ETH06HN3	Plastic Power Pack	TO-220AC		1.3		50	18	90	175
8	VS-8ETH06SHM3	Power Pack SMD	D^2PAK (TO-263AB)							175
8	VS-8ETU04-1HM3	Plastic Power Pack	TO-262AA	400	0.94		10	35	100	175
8	VS-8ETU04HN3		TO-220AC							175
8	VS-8ETU04SHM3	Power Pack SMD	D^2PAK (TO-263AB)							175

Notes: (1) Bold = new products; (2) Dual center-tapped device (V_F limit at I_F is per diode)

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ULTRAFAST RECOVERY RECTIFIERS

FRED Pt®

FRED Pt® AEC-Q101 Qualified Products (cont.)

$I_{F(AV)}$ (A)	Device[1]	Package		V_{RRM} (V)	V_F at I_F		I_R at V_{RRM} (uA)	T_{rr} (ns)*	I_{FSM} (A)	T_j Max. (ºC)
		Family	Type		(V)	(A)				
8	VS-8ETU12HN3	Plastic Power Pack	TO-220AC	1200	1.95	8	55	42	80	175
8	VS-8EWH06FNHM3	Power Pack SMD	DPAK (TO-252AA)	600	1.3		50	18	90	175
8	VS-MURB820-1HM3	Plastic Power Pack	TO-262AA	200	0.75		5	19	100	175
8	VS-MURB820HM3		D^2PAK (TO-263AB)	200						175
8	**VS-8CVH01HM3/I**	Power Pack SMD [2]	SlimDPAK (TO-252AE)	100	0.71	4	4	16		175
8	**VS-8CVH02HM3/I**			200						175
8	**VS-8EVH06HM3/I**	Power Pack SMD		600	1.3	8	20		90	175
8	**VS-8EVL06HM3/I**				0.98			34	130	175
8	**VS-8EVX06HM3/I**				1.4		20	14	80	175
10	**VS-10CDU06HM3/I**	Power Pack SMD [2]	SMPD (TO-263AC)		1	5	3	35	110	175
10	**VS-10CSH01HM3/86A**		SMPC (TO-277A)	100	0.75		2	25	130	175
10	**VS-10CSH02HM3/86A**			200						175
10	VS-MURB1020CT-1HM3	Plastic Power Pack [2]	TO-262AA	200	0.87		10	19	50	175
10	VS-MURB1020CTHM3	Power Pack SMD [2]	D^2PAK (TO-263AB)	200						175
10	**VS-10CVH01HM3/I**	Power Pack SMD [2]	SlimDPAK (TO-252AE)	100	0.74		4	16	200	175
10	**VS-10CVH02HM3/I**			200						175
12	**VS-12CDU06HM3/I**	Power Pack SMD [2]	SMPD (TO-263AC)	600	0.89	6	5	45		175
15	**VS-15ETH03SHM3**	Power Pack SMD	D^2PAK (TO-263AB)	300	0.85	15	40	40	140	175
15	VS-15ETH06HN3	Plastic Power Pack	TO-220AC	600	1.3		50	22	120	175
15	VS-15ETL06HN3				0.85		10	60	250	175
15	VS-15ETU12HN3			1200	2.25		80	44	150	175
15	VS-ETH1506-1HM3		TO-262AA	600	1.25		15	21	160	175
15	**VS-ETH1506SHM3**	Power Pack SMD	D^2PAK (TO-263AB)							175
15	VS-ETL1506-1HM3	Plastic Power Pack	TO-262AA		0.85			60	200	175
15	VS-ETL1506SHM3	Power Pack SMD	D^2PAK (TO-263AB)		0.85					175
15	VS-ETU1506-1HM3	Plastic Power Pack	TO-262AA		1.1			24	160	175
15	**VS-ETU1506SHM3**	Power Pack SMD	D^2PAK (TO-263AB)							175
15	**VS-15EVH06HM3/I**		SlimDPAK (TO-252AE)		1.2		20	20	120	175
15	**VS-15EVL06HM3/I**				0.98		10	38	180	175
15	**VS-15EVU06HM3/I**				1.1		20	26	160	175
16	**VS-16CDH02HM3/I**	Power Pack SMD [2]	SMPD (TO-263AC)	200	0.77	8	2	27	190	175
16	**VS-16CDU06HM3/I**			600	0.94		5	45	200	175
16	VS-16EDH02HM3/I	Power Pack SMD	SMPD (TO-263AC)	200	0.75		5	32	250	175
16	**VS-16EDU06HM3/I**	Power Pack SMD		600	0.91	16	15	55	160	175
16	**VS-MURB1620CT-1HM3**	Plastic Power Pack [2]	TO-262AA	200	0.91			55	160	175
16	VS-MURB1620CTHM3	Power Pack SMD [2]	D^2PAK (TO-263AB)	200	0.895	8	5	19	100	175

Notes: (1) Bold = new products; (2) Dual center-tapped device (V_F limit at I_F is per diode)

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ULTRAFAST RECOVERY RECTIFIERS

FRED Pt®

FRED Pt® AEC-Q101 Qualified Products (cont.)

$I_{F(AV)}$ (A)	Device[1]	Package		V_{RRM} (V)	V_F at I_F		I_R at V_{RRM} (uA)	T_{rr} (ns)*	I_{FSM} (A)	T_j Max. (°C)
		Family	Type		(V)	(A)				
20	**VS-20CDH02HM3/I**	Power Pack SMD [2]	SMPD (TO-263AC)	200	0.77	10	2	25	210	175
20	VS-20CTH03-1HM3	Plastic Power Pack [2]	TO-262AA	300	0.85		20	23	120	175
20	VS-20CTH03SHM3	Power Pack SMD [2]	D²PAK (TO-263AB)							175
20	VS-MURB2020CT-1HM3	Plastic Power Pack [2]	TO-262AA	200			5	19	100	175
20	VS-MURB2020CTHM3	Power Pack SMD [2]	D²PAK (TO-263AB)							175
30	**VS-30CDU06HM3/I**		SMPD (TO-263AC)	600	0.9	15	15	55	300	175
30	**VS-30CTH02SHM3**		D²PAK (TO-263AB)	200	0.78		10	30	200	175
30	VS-30CPU04HN3	Plastic Power Pack [2]	TO-247AC	400	0.93			36		175
30	**VS-30EPH06HN3**	Plastic Power Pack	TO-247AC	600	1.34	30	50	28	300	175
30	**VS-30EPU12LHN3**		TO-247AD	1200	2.05		145	49		175
30	VS-APH3006HN3		TO-247AC	600	1.4		30	27	220	175
30	VS-APU3006HN3				1.15			30	220	175
30	VS-EPH3006HN3				1.4			27		175
30	**VS-EPU3006HN3**				1.15			30		175
30	VS-ETH3006-1HM3		TO-262AA		1.4			27	180	175
30	**VS-ETH3006SHM3**	Power Pack SMD	D²PAK (TO-263AB)							175
30	VS-ETU3006-1HM3	Plastic Power Pack	TO-262AA		1.15			30	200	175
30	**VS-ETU3006SHM3**	Power Pack SMD	D²PAK (TO-263AB)							175
30	**VS-APH3006LHN3**	Plastic Power Pack	TO-247AD		1.4			26	240	175
30	**VS-EPH3006LHN3**				1.4					175
30	**VS-C4PU3006LHN3**	Plastic Power Pack [2]			1.17	15	15	60	200	175
30	**VS-C4PH3006LHN3**	Plastic Power Pack [2]			1.35			50		175
30	**VS-E4PH3006LHN3**	Plastic Power Pack			1.4	30	50	55	240	175
30	**VS-E4PU3006LHN3**				1.2			65		175
30	**VS-APU3006LHN3**				1.15		30	30	250	175
30	**VS-EPU3006LHN3**				1.4				220	175
30	**VS-ETH3007THN3**		TO-220AC	650	1.4			37	210	175
30	**VS-ETX3007THN3**			650	1.6			27		175
30	VS-30ETU12THN3			1200	2.05	30	145	57	400	175
50	VS-50EPU12LHN3		TO-247AD	1200	1.95	60	330	50	600	175
60	VS-60APU04HN3		TO-247AC	400	0.87		50	34		175
60	VS-60APU06HN3			600	1.2			50		175
60	VS-60EPU04HN3			400	0.87			34		175
60	VS-60EPU06HN3			600	1.2	30		55	480	175
60	**VS-C4PH6006LHN3**	Plastic Power Pack [2]	TO-247AD		1.44			65		175
60	**VS-C4PU6006LHN3**				1.23		30	26	240	175
60	**VS-CPU6006LHN3**				1.1	60	50	68	250	175

Notes: (1) Bold = new products; (2) Dual center-tapped device (V_F limit at I_F is per diode)

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ULTRAFAST RECOVERY RECTIFIERS

FRED Pt®

FRED Pt® AEC-Q101 Qualified Products (cont.)

$I_{F(AV)}$ (A)	Device(1)	Package		V_{RRM} (V)	V_F at I_F		I_R at V_{RRM} (uA)	T_{rr} (ns)*	I_{FSM} (A)	T_j Max. (°C)
		Family	Type		(V)	(A)				
60	**VS-E4PH6006LHN3**	Plastic Power Pack	TO-247AD	600	1.4	60	50	68	425	175
60	**VS-E4PU6006LHN3**				1.33			74	450	175
60	**VS-EPU6006LHN3**				1.1		30	32	600	175
75	VS-75EPU12LHN3			1200	1.95	75	420	62	700	175
80	VS-80EBU02HF4		PowerTab®	200	0.77	80	50	32	800	175
80	VS-80EBU04HF4			400	0.92			50		175
80	VS-EBU8006HF4			600	1.13		8	46	750	175
150	VS-150EBU02HF4			200	0.77	150	50	34	1600	175
150	VS-150EBU04HF4			400	0.9			60	1500	175
150	VS-EBU15006HF4			600	1.08		8	50	1200	175

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FRED Pt® Standard Products

$I_{F(AV)}$ (A)	Device(1)	Package		V_{RRM} (V)	V_F at I_F		I_R at V_{RRM} (uA)	T_{rr} (ns)*	I_{FSM} (A)	T_j Max. (°C)
		Family	Type		(V)	(A)				
1	**VS-1EFH01-M3/I**	Plastic SMD	SMF (DO-219AB)	100	0.74	1	2	25	35	175
1	**VS-1EFH02-M3/I**			200						175
1	**VS-1EFU06-M3/I**			600	0.83		3	55	30	175
1	VS-1EMH01-M3/5AT		SMA (DO-214AC)	100	0.68		2	25	50	175
1	VS-1EMH02-M3/5AT			200						175
1	**VS-1ENH01-M3/85A**		SMP (DO-220AA)	100	0.69			14	40	175
1	**VS-1ENH02-M3/85A**			200						175
2	**VS-2EFH01-M3/I**		SMF (DO-219AB)	100	0.75	2		25	50	175
2	**VS-2EFH02-M3/I**			200						175
2	**VS-2EFU06-M3/I**			600	0.95		3	55	30	175
2	**VS-2EJH01-M3/6A**		SlimSMA (DO-221AC)	100	0.72		2	25	65	175
2	**VS-2EJH02-M3/6A**			200						175
2	VS-2EMH01-M3/5AT		SMA (DO-214AC)	100	0.75				50	175
2	VS-2EMH02-M3/5AT			200						175
2	VS-2EGH01-M3/5BT		SMB (DO-214AA)	100	0.66			24	70	175
2	VS-2EGH02-M3/5BT			200						175
2	**VS-2EYH01-M3/I**		SlimSMAW (DO-221AD)	100	0.69			22	60	175
2	**VS-2EYH02-M3/I**			200						175
2	**VS-2ENH01-M3/85A**		SMP (DO-220AA)	100	0.79			16	40	175
2	**VS-2ENH02-M3/85A**			200						175

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ULTRAFAST RECOVERY RECTIFIERS

FRED Pt®

FRED Pt® Standard Products (cont.)

$I_{F(AV)}$ (A)	Device[1]	Package		V_{RRM} (V)	V_F at I_F		I_R at V_{RRM} (uA)	T_{rr} (ns)*	I_{FSM} (A)	T_j Max. (°C)
		Family	Type		(V)	(A)				
3	VS-3ECH01-M3/9AT	Plastic SMD	SMC (DO-214AB)	100	0.69	3	2	25	130	175
3	VS-3ECH02-M3/9AT			200						175
3	VS-3EGH06-M3/5BT		SMB (DO-214AA)	600	1.2		3	35	55	175
3	VS-3EGU06-M3/5BT				0.99			41		175
3	**VS-3EJH01-M3/6A**		SlimSMA (DO-221AC)	100	0.74		2	30	85	175
3	**VS-3EJH02-M3/6A**			200						175
3	VS-3EMH06-M3/5AT		SMA (DO-214AC)	600	1.2		3	35	50	175
3	VS-3EMU06-M3/5AT				0.99			41	55	175
3	**VS-3EJU06-M3/6A**		SlimSMA (DO-221AC)		0.99			45	43	175
3	**VS-3EYH01-M3/I**		SlimSMAW (DO-221AD)	100	0.71		2	22	70	175
3	**VS-3EYH02-M3/I**			200						175
4	**VS-4CSH01-M3/86A**	Power Pack SMD [2]	SMPC (TO-277A)	100	0.75	2		24	90	175
4	**VS-4CSH02-M3/86AT**			200						175
4	VS-4ECH06-M3/9AT	Plastic SMD	SMC (DO-214AB)	600	1.15	4	3	30		175
4	VS-4ECU06-M3/9AT				0.88			45	120	175
4	VS-4EGH06-M35BT		SMB (DO-214AA)		1.2			30	55	175
4	VS-4EGU06-M3/5BT				0.94			45	100	175
4	**VS-4ESH01-M3/86A**	Power Pack SMD	SMPC (TO-277A)	100	0.73		2	27	130	175
4	**VS-4ESH02-M3/86A**			200						175
4	VS-4EWH02FN-M3		DPAK (TO-252AA)		0.71		3	23	80	175
4	**VS-4EVH01-M3/I**		SlimDPAK (TO-252AE)	100				16	100	175
4	**VS-4EVH02-M3/I**			200						175
5	VS-5ECH06-M3/9AT	Plastic SMD	SMC (DO-214AB)	600	1.2	5		30	110	175
5	VS-5ECU06-M3/9AT				0.92			45	130	175
5	VS-5EWH06FN-M3	Power Pack SMD	DPAK (TO-252AA)		1.2		5	18	70	175
5	VS-5EWL06FN-M3				0.85			59	80	175
5	VS-5EWX06FN-M3				1.55		20	14	50	175
6	**VS-6CSH01-M3/86A**	Power Pack SMD [2]	SMPC (TO-277A)	100	0.75	3	2	27	150	175
6	**VS-6CSH02-M3/86A**			200						175
6	VS-6CWH02FN-M3		DPAK (TO-252AA)		0.9		5	20	50	175
6	**VS-6ESH01-M3/86A**	Power Pack SMD	SMPC (TO-277A)	100	0.74	6	2	28	150	175
6	**VS-6ESH02-M3/86A**			200						175
6	**VS-6ESH06-M3/86A**			600	1.05		5	33	90	175
6	**VS-6ESU06-M3/86A**				0.95			42	120	175
6	VS-6EWH06FN-M3		DPAK (TO-252AA)		1.26			18	70	175
6	VS-6EWL06FN-M3				0.87			59	80	175
6	VS-6EWX06FN-M3				1.65		20	14	50	175

Notes: (1) Bold = new products; (2) Dual center-tapped device (V_F limit at I_F is per diode)

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ULTRAFAST RECOVERY RECTIFIERS

FRED Pt®

FRED Pt® Standard Products (cont.)

$I_{F(AV)}$ (A)	Device[1]	Package		V_{RRM} (V)	V_F at I_F		I_R at V_{RRM} (uA)	T_{rr} (ns)*	I_{FSM} (A)	T_j Max. (°C)
		Family	Type		(V)	(A)				
6	VS-MURD620CT-M3	Power Pack SMD [2]	DPAK (TO-252AA)	200	0.78	3	5	20	50	175
6	**VS-6DKH02-M3/H**	Power Pack SMD	FlatPAK 5 x 6		0.71		2	25	173	175
6	**VS-6CVH01-M3/I**	Power Pack SMD [2]	SlimDPAK (TO-252AE)	100	0.75		3	20	140	175
6	**VS-6CVH02-M3/I**			200						175
6	**VS-6EVH06-M3/I**	Power Pack SMD		600	1.26	6	5	16	70	175
6	**VS-6EVL06-M3/I**				0.98			34	80	175
6	**VS-6EVX06-M3/I**				1.65			14	50	175
8	**VS-8DKH02-M3/H**		FlatPAK 5 x 6	200	0.7	4	2	25	173	175
8	**VS-8CSH01-M3/86A**	Power Pack SMD [2]	SMPC (TO-277A)	100	0.72				130	175
8	**VS-8CSH02-M3/86A**			200						175
8	VS-8CWH02FN-M3		DPAK (TO-252AA)		0.71		4	23	80	175
8	VS-8ETH03-1-M3	Plastic Power Pack	TO-262AA	300	0.83	8	20	35	100	175
8	VS-8ETH03-M3		TO-220AC					27		175
8	VS-8ETH03S-M3	Power Pack SMD	D^2PAK (TO-263AB)							175
8	VS-8ETH06-1-M3	Plastic Power Pack	TO-262AA	600	1.3		50	18	90	175
8	VS-8ETH06-M3		TO-220AC							175
8	VS-8ETH06S-M3	Power Pack SMD	D^2PAK (TO-263AB)							175
8	VS-8ETH06FP-N3	Isolated Power Pack	TO-220FP							175
8	VS-8ETL06-1-M3	Plastic Power Pack	TO-262AA		0.81		5	60	175	175
8	VS-8ETL06-M3	Plastic Power Pack	TO-220AC							175
8	VS-8ETL06FP-N3	Isolated Power Pack	TO-220FP							175
8	VS-8ETL06S-M3	Power Pack SMD	D^2PAK (TO-263AB)							175
8	VS-8ETU04-1-M3	Plastic Power Pack	TO-262AA	400	0.94		10	35	100	175
8	VS-8ETU04-M3		TO-220AC							175
8	VS-8ETU04S-M3	Power Pack SMD	D^2PAK (TO-263AB)							175
8	**VS-8ETU12-M3**	Plastic Power Pack	TO-220AC	1200	1.95		55	42	80	175
8	VS-8ETX06-1-M3		TO-262AA	600	1.4		50	15	110	175
8	VS-8ETX06-M3		TO-220AC							175
8	VS-8ETX06FP-N3	Isolated Power Pack	TO-220FP							175
8	VS-8ETX06S-M3	Power Pack SMD	D^2PAK (TO-263AB)							175
8	VS-8EWH02FN-M3		DPAK (TO-252AA)	200	0.75		5	23	140	175
8	VS-8EWH06FN-M3			600	1.3		50	18	90	175
8	VS-8EWL06FN-M3				0.81		5	60	140	175
8	VS-8EWX06FN-M3				1.4		50	15	90	175
8	**VS-8CVH01-M3/I**	Power Pack SMD [2]	SlimDPAK (TO-252AE)	100	0.71	4	4	16	100	175
8	**VS-8CVH02-M3/I**			200						175
8	**VS-8EVH06-M3/I**	Power Pack SMD		600	0.98	8	5		90	175
8	**VS-8EVL06-M3/I**							34	130	175

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ULTRAFAST RECOVERY RECTIFIERS

FRED Pt®

FRED Pt® Standard Products (cont.)

$I_{F(AV)}$ (A)	Device[1]	Package		V_{RRM} (V)	V_F at I_F		I_R at V_{RRM} (uA)	T_{rr} (ns)*	I_{FSM} (A)	T_j Max. (°C)
		Family	Type		(V)	(A)				
8	**VS-8EVX06-M3/I**	Power Pack SMD	SlimDPAK (TO-252AE)	600	1.4	8	20	14	80	175
8	VS-ETH0806-M3	Plastic Power Pack	TO-220AC		1.3		12	16	80	175
8	VS-ETH0806FP-M3	Isolated Power Pack	TO-220FP							175
8	VS-ETL0806-M3	Plastic Power Pack	TO-220AC		0.84		9	65	120	175
8	VS-ETL0806FP-M3	Isolated Power Pack	TO-220FP							175
8	VS-ETU0805-M3	Plastic Power Pack	TO-220AC	500	0.9		9	28	110	175
8	VS-ETX0806-M3			600	1.5		30	14	80	175
8	VS-ETX0806FP-M3	Isolated Power Pack	TO-220FP							175
8	VS-MUR820-M3	Plastic Power Pack	TO-220AC	200	0.8		5	19	100	175
8	VS-MURB820-1-M3		TO-262AA							175
8	VS-MURB820-M3		D²PAK (TO-263AB)							175
10	**VS-10CDH06-M3/I**	Power Pack SMD [2]	SMPD (TO-263AC)	600	1	5	3	35	110	175
10	**VS-10CSH01-M3/86A**		SMPC (TO-277A)	100	0.75		2	25	130	175
10	**VS-10CSH02-M3/86A**			200						175
10	VS-MUR1020CT-M3	Plastic Power Pack [2]	TO-220AB		0.87		10	19	50	175
10	VS-MURB1020CT-1-M3		TO-262AA				5			175
10	VS-MURB1020CT-M3		D²PAK (TO-263AB)							175
10	**VS-10CVH01-M3/I**	Power Pack SMD [2]	SlimDPAK (TO-252AE)	100	0.74		4	16	200	175
10	**VS-10CVH02-M3/I**			200						175
12	**VS-12CDU06-M3/I**	Power Pack SMD [2]	SMPD (TO-263AC)	600	0.89	6	5	45		175
12	VS-12EWH06FN-M3	Power Pack SMD	DPAK (TO-252AA)		1.34	12	10	18	110	175
15	VS-15AWL06FN-M3				0.85	15		60	180	175
15	VS-15ETH03-1-M3	Plastic Power Pack	TO-262AA	300			40	40	140	175
15	VS-15ETH03-M3		TO-220AC					32		175
15	VS-15ETH03S-M3	Power Pack SMD	D²PAK (TO-263AB)					40		175
15	VS-15ETH06-1-M3	Plastic Power Pack	TO-262AA	600	1.3		50	22	120	175
15	VS-15ETH06-M3		TO-220AC							175
15	VS-15ETH06FP-N3	Isolated Power Pack	TO-220FP							175
15	VS-15ETH06S-M3	Power Pack SMD	D²PAK (TO-263AB)							175
15	VS-15ETL06-1-M3	Plastic Power Pack	TO-262AA		0.85		10	60	250	175
15	VS-15ETL06-M3		TO-220AC							175
15	VS-15ETL06FP-N3	Isolated Power Pack	TO-220FP							175
15	VS-15ETL06S-M3	Power Pack SMD	D²PAK (TO-263AB)							175
15	VS-15ETU12-M3	Plastic Power Pack	TO-220AC	1200	2.25		80	44	150	175
15	VS-15ETX06-1-M3		TO-262AA	600	1.5		50	18	170	175
15	VS-15ETX06-M3	Plastic Power Pack	TO-220AC							175
15	VS-15ETX06FP-N3	Isolated Power Pack	TO-220FP							175

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ULTRAFAST RECOVERY RECTIFIERS

FRED Pt®

FRED Pt® Standard Products (cont.)

$I_{F(AV)}$ (A)	Device[1]	Package		V_{RRM} (V)	V_F at I_F		I_R at V_{RRM} (uA)	T_{rr} (ns)*	I_{FSM} (A)	T_j Max. (°C)
		Family	Type		(V)	(A)				
15	VS-15ETX06S-M3	Power Pack SMD	D²PAK (TO-263AB)	600	1.5	15	50	18	170	175
15	VS-15EWH06FN-M3	Power Pack SMD	DPAK (TO-252AA)		1.2			22	120	175
15	VS-15EWL06FN-M3	Power Pack SMD	DPAK (TO-252AA)		0.85		10	60	180	175
15	VS-15EWX06FN-M3	Power Pack SMD	DPAK (TO-252AA)		1.5		50	18	120	175
15	VS-ETH1506-1-M3	Plastic Power Pack	TO-262AA		1.25		15	21	160	175
15	VS-ETH1506-M3	Plastic Power Pack	TO-220AC							175
15	VS-ETH1506FP-M3	Isolated Power Pack	TO-220FP							175
15	VS-ETH1506S-M3	Power Pack SMD	D²PAK (TO-263AB)							175
15	VS-ETL1506-1-M3	Plastic Power Pack	TO-262AA		0.85			60	200	175
15	VS-ETL1506-M3	Plastic Power Pack	TO-2220AC							175
15	VS-ETL1506FP-M3	Isolated Power Pack	TO-220FP							175
15	VS-ETL1506S-M3	Power Pack SMD	D²PAK (TO-263AB)							175
15	VS-ETU1506-1-M3	Plastic Power Pack	TO-262AA		1.1		9	24	160	175
15	VS-ETU1506-M3	Plastic Power Pack	TO-220AC				15			175
15	VS-ETU1506FP-M3	Isolated Power Pack	TO-220FP							175
15	VS-ETU1506S-M3	Power Pack SMD	D²PAK (TO-263AB)							175
15	VS-ETX1506-1-M3	Plastic Power Pack	TO-262AA		1.55		36	18	120	175
15	VS-ETX1506-M3	Plastic Power Pack	TO-220AC							175
15	VS-ETX1506FP-M3	Isolated Power Pack	TO-220FP							175
15	VS-ETX1506S-M3	Power Pack SMD	D²PAK (TO-263AB)							175
15	VS-MUR1520-M3	Plastic Power Pack	TO-220AC	200	0.78		10	22	200	175
15	VS-MURB1520-1-M3	Plastic Power Pack	TO-262AA							175
15	VS-MURB1520-M3	Power Pack SMD	D²PAK (TO-263AB)							175
15	**VS-15EVH06-M3/I**	Power Pack SMD	SlimDPAK (TO-252AE)	600	1.2		20	20	120	175
15	**VS-15EVL06-M3/I**	Power Pack SMD	SlimDPAK (TO-252AE)		0.98		10	38	180	175
15	**VS-15EVU06-M3/I**	Power Pack SMD	SlimDPAK (TO-252AE)		1.1			26	160	175
16	**VS-16CDH02-M3/I**	Power Pack SMD [2]	SMPD (TO-263AC)	200	0.77	8	2	27	190	175
16	**VS-16CDU06-M3/I**	Power Pack SMD [2]	SMPD (TO-263AC)	600	0.94		5	45	200	175
16	VS-16CTU04-1-M3	Plastic Power Pack [2]	TO-262AA	400			10	35	100	175
16	VS-16CTU04-M3	Plastic Power Pack [2]	TO-220AB							175
16	VS-16CTU04S-M3	Power Pack SMD [2]	D²PAK (TO-263AB)							175
16	**VS-16EDH02-M3/I**	Power Pack SMD	SMPD (TO-263AC)	200	0.75	16	15	32	250	175
16	**VS-16EDU06-M3/I**	Power Pack SMD	SMPD (TO-263AC)	600	0.91			55	160	175
16	VS-MUR1620CT-M3	Plastic Power Pack [2]	TO-220AB	200	0.78	8	5	19	100	175
16	VS-MUR1620CT-1-M3	Plastic Power Pack [2]	TO-262AA							175
16	VS-MURB1620CT-M3	Power Pack SMD [2]	D²PAK (TO-263AB)							175
20	VS-E4TU2006TFP-N3	Isolated Power Pack	TO-220FP	600	1.26	20	15	61	190	175
20	**VS-20CDH02-M3/I**	Power Pack SMD (2)	SMPD (TO-263AC)	200	0.77	10	2	25	210	175

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ULTRAFAST RECOVERY RECTIFIERS

FRED Pt®

FRED Pt® Standard Products (cont.)

$I_{F(AV)}$ (A)	Device[1]	Package		V_{RRM} (V)	V_F at I_F		I_R at V_{RRM} (uA)	T_{rr} (ns)*	I_{FSM} (A)	T_j Max. (°C)
		Family	Type		(V)	(A)				
20	VS-20CTH03-1-M3	Plastic Power Pack [2]	TO-262AA	300	0.85	10	20	35	120	175
20	VS-20CTH03-M3		TO-220AB					31		175
20	VS-20CTH03FP-N3	Isolated Power Pack [2]	TO-220FP							175
20	VS-20CTH03S-M3	Power Pack SMD [2]	D²PAK (TO-263AB)					35		175
20	VS-MUR2020CT-M3	Plastic Power Pack [2]	TO-220AB	200	0.78	8	15	19	100	175
20	VS-MURB2020CT-1-M3		TO-262AA							175
20	VS-MURB2020CT-M3	Power Pack SMD [2]	D²PAK (TO-263AB)							175
30	**VS-30CDU06-M3/I**		SMPD (TO-263AC)	600	0.9	15	15	55	300	175
30	VS-30CPH03-N3	Plastic Power Pack [2]	TO-247AC	300	0.85		40	32	140	175
30	VS-30CPU04-N3			400	0.93		10	36	200	175
30	VS-30CTH02-1-M3		TO-262AA	200	0.78			30		175
30	VS-30CTH02-M3		TO-220AB							175
30	VS-30CTH02FP-N3	Isolated Power Pack [2]	TO-220FP							175
30	VS-30CTH02S-M3	Power Pack SMD [2]	D²PAK (TO-263AB)							175
30	VS-30CTH03-M3	Plastic Power Pack [2]	TO-220AB	300	0.85		40	32	150	175
30	VS-30EPH03-N3	Plastic Power Pack	TO-247AC		0.9	30	60	38	300	175
30	VS-30EPH06-N3			600	1.34		50	28		175
30	VS-30EPU12L-N3		TO-247AD	1200	2.05		145	49		175
30	VS-30ETH06-1-M3		TO-262AA	600	1.34		50	28	200	175
30	VS-30ETH06-M3		TO-220AC					23		175
30	VS-30ETH06FP-N3	Isolated Power Pack	TO-220FP							175
30	VS-30ETH06S-M3	Power Pack SMD	D²PAK (TO-263AB)					28		175
30	VS-APH3006-N3	Plastic Power Pack	TO-247AC		1.4		30	27	220	175
30	VS-APU3006-N3				1.15			30		175
30	VS-CPH3006L-M3	Plastic Power Pack [2]	TO-247AD		1.25	15	15	21	230	175
30	VS-EPH3006-N3	Plastic Power Pack	TO-247AC		1.4	30	30	27	220	175
30	VS-EPH3006L-N3		TO-247AD							175
30	VS-EPU3006-N3		TO-247AC		1.15			30		175
30	VS-ETH3006-1-M3		TO-262AA		1.4			27	180	175
30	VS-ETH3006-M3		TO-220AC							175
30	VS-ETH3006FP-M3	Isolated Power Pack	TO-220FP							175
30	VS-ETH3006S-M3	Power Pack SMD	D²PAK (TO-263AB)							175
30	VS-ETU3006-1-M3	Plastic Power Pack	TO-262AA		1.15			30	200	175
30	VS-ETU3006-M3		TO-220AC							175
30	VS-ETU3006FP-M3	Isolated Power Pack	TO-220FP							175
30	VS-ETU3006S-M3	Power Pack SMD	D²PAK (TO-263AB)							175
30	VS-MUR3020WT-N3	Plastic Power Pack [2]	TO-247AC	200	0.85	15	10	22		175

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ULTRAFAST RECOVERY RECTIFIERS

FRED Pt®

FRED Pt® Standard Products (cont.)

$I_{F(AV)}$ (A)	Device[1]	Package		V_{RRM} (V)	V_F at I_F		I_R at V_{RRM} (uA)	T_{rr} (ns)*	I_{FSM} (A)	T_j Max. (°C)
		Family	Type		(V)	(A)				
30	VS-APH3006L-N3	Plastic Power Pack	TO-247AD	600	1.4	30	15	26	240	175
30	VS-C4PU3006L-N3	Plastic Power Pack [2]			1.17	15	15	60	200	175
30	VS-C4PH3006L-N3				1.35			50		175
30	VS-E4PH3006L-N3	Plastic Power Pack			1.4	30	50	55	240	175
30	VS-E4PU3006L-N3				1.2			65		175
30	VS-APU3006L-N3				1.15		30	30	250	175
30	VS-EPU3006L-N3								220	175
30	**VS-ETH3007-M3**		TO-220AC	650	1.4			37	210	175
30	**VS-ETX3007-M3**				1.6			35		175
30	VS-30ETU12-M3			1200	2.05		145	49	240	175
30	VS-C4ZU6006FP-E3	Isolated Power Pack [2]	TO-3PF	600	1.08	15	15	37	180	175
30	**VS-EPH3007L-N3**	Plastic Power Pack	TO-247AD	650	1.4	30	30	33	195	175
30	**VS-EPX3007L-N3**				1.6			27	170	175
50	VS-50EPU12L-N3			1200	1.95	50	330	57	400	175
60	VS-60APH03-N3		TO-247AC	300	0.85	60	10	28	450	175
60	VS-60APU02-N3			200	0.81		50		800	175
60	VS-60APU04-N3			400	0.87			50	600	175
60	VS-60APU06-N3			600	1.11			34		175
60	VS-60CPH03-N3	Plastic Power Pack [2]	TO-247AC	300	0.92	30	60	39	300	175
60	VS-60CPU02-N3			200	0.75		50	30		175
60	VS-60CPU03W-N3			300	0.9		5	50		175
60	VS-60CPU04-N3			400	0.92		10	37		175
60	VS-60CPU06-N3			600	1.1		50	27		175
60	VS-60EPU02-N3	Plastic Power Pack	TO-247AC	200	0.81	60		28	800	175
60	VS-60EPU04-N3			400	0.87			50	600	175
60	VS-60EPU06-N3			600	1.11			34		175
60	VS-APU6006-N3				1.05		30	32		175
60	VS-EPU6006-N3									175
60	VS-C4PH6006L-N3	Plastic Power Pack [2]	TO-247AD		1.44	30	50	55	480	175
60	VS-C4PU6006L-N3				1.23			65		175
60	VS-CPU6006L-N3				1.1		30	26	500	175
60	VS-E4PH6006L-N3	Plastic Power Pack			1.4	60	50	68	425	175
60	VS-E4PU6006L-N3				1.33			74	450	175
60	VS-EPU6006L-N3				1.1		30	32	600	175
60	VS-C4ZU6006FP-E3	Isolated Power Pack	TO-3PF		1.2	30	50	37	255	175
60	**VS-EPH6007L-N3**	Plastic Power Pack	TO-247AD	650	1.4	60	30	65	520	175
60	**VS-EPX6007L-N3**				1.6			40	500	175
75	VS-75EPU12L-N3			1200	1.95	75	420	62	700	175

Notes: (1) Bold = new products; (2) Dual center-tapped device (V_F limit at I_F is per diode)

*See datasheet for T_{rr} test conditions

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ULTRAFAST RECOVERY RECTIFIERS

FRED Pt®

FRED Pt® Standard Products (cont.)

$I_{F(AV)}$ (A)	Device[1]	Package		V_{RRM} (V)	V_F at I_F		I_R at V_{RRM} (uA)	T_{rr} (ns)*	I_{FSM} (A)	T_j Max. (°C)
		Family	Type		(V)	(A)				
80	VS-80CPH03-N3	Plastic Power Pack [2]	TO-247AC	300	0.94	40	10	34	320	175
80	VS-80CPU02-N3			200	0.8		5		330	175
80	VS-80EBU02	Plastic Power Pack	PowerTab®		0.79	80	50	32	800	175
80	VS-80EBU04			400	0.92			50		175
150	VS-150EBU02			200	0.79	150		34	1600	175
150	VS-150EBU04			400	0.9			60	1500	175
150	VS-EBU15006-F4			600	1.63		8	50	1200	175

Notes: (1) Bold = new products; (2) Dual center-tapped device (V_F limit at I_F is per diode)

*See datasheet for T_{rr} test conditions

FRED Pt® Gen 5, 1200 V

$I_{F(AV)}$ (A)	Device[1]	Package		V_{RRM} (V)	V_F at I_F		I_R at V_{RRM} (uA)	T_{rr} (ns)*	I_{FSM} (A)	T_j Max. (°C)
		Family	Type		(V)	(A)				
30	**VS-E5PX3012L-N3**	Plastic Power Pack	TO-247AD	1200	2.1	30	50	26	210	175
30	**VS-E5TX3012-N3**	Plastic Power Pack	TO-220AC	1200	2.1	30	50	26	210	175
30	**VS-E5PH3012L-N3**	Plastic Power Pack	TO-247AD	1200	1.7	30	50	32	250	175
30	**VS-E5TH3012-N3**	Plastic Power Pack	TO-220AC	1200	1.7	30	50	32	250	175
60	**VS-E5PX6012L-N3**	Plastic Power Pack	TO-247AD	1200	2.1	60	50	30	420	175
60	**VS-E5PH6012L-N3**	Plastic Power Pack	TO-247AD	1200	1.7	60	50	38	460	175

Notes: (1) Bold = new products

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ULTRAFAST RECOVERY RECTIFIERS

HEXFRED®

HEXFRED® technology merges ultrafast planar technology with proprietary Schottky barrier construction to enable soft and fast recovery behavior at any di/dt condition. This makes Vishay HEXFRED® products the best choice for use as the antiparallel diode for IGBTs and for power supplies operating at high switching speeds. A full range of halogen-free components are also offered.

HEXFRED® AEC-Q101 qualified products have undergone part average testing (PAT) and statistical yield limit (SYL) analysis to ensure their electrical parameters meet the highest quality level for automotive applications. The parts use a dedicated die in the front-end operation and a dedicated part number at the back end, both selected with PAT and SYL statistical criteria, and are suitable for battery charging systems, EH / HEV vehicles, HID lighting, and other automotive applications.

HEXFRED® AEC-Q101 Qualified Products

$I_{F(AV)}$ (A)	Device[1]	Package		V_{BR} (V)
		Family	Type	
4	VS-HFA04SD60SHM3	Power Pack SMD	DPAK (TO-252AA)	600
8	VS-HFA08TB120HN3	Plastic Power Pack	TO-220AC	1200
8	VS-HFA08TB60HN3			600
16	VS-HFA16PB120HN3		TO-247AC	1200
16	VS-HFA16TB120SHM3	Power Pack SMD	D2PAK (TO-263AB)	1200
25	VS-HFA25TB60SHM3			600
25	VS-HFA25TB60HN3	Plastic Power Pack	TO-220AC	
30	**VS-HFA30PB120HN3**	Plastic Power Pack	TO-247AC	1200
30	VS-HFA30TA60CHN3	Plastic Power Pack [2]	TO-220AB	600
50	**VS-HFA50PA60CHN3**		TO-247AB	

Notes: (1) Bold = new products; (2) Dual center-tapped device (V_F limit at I_F is per diode)

HEXFRED® Standard Products

$I_{F(AV)}$ (A)	Device[1]	Package		V_{BR} (V)
		Family	Type	
4	VS-HFA04SD60S-M3	Power Pack SMD	DPAK (TO-252AA)	600
4	VS-HFA04TB60-M3	Plastic Power Pack	TO-220AC	
4	VS-HFA04TB60S-M3	Power Pack SMD	D2PAK (TO-263AB)	
6	VS-HFA06PB120-N3	Plastic Power Pack	TO-247AC	1200
6	VS-HFA06TB120-M3		TO-220AC	
8	VS-HFA08PB120-N3	Plastic Power Pack	TO-247AC	
8	VS-HFA08PB60-N3			600
8	VS-HFA08SD60S-M3	Power Pack SMD	DPAK (TO-252AA)	
8	VS-HFA08TA60C-M3	Plastic Power Pack [2]	TO-220AB	
8	VS-HFA08TA60CS-M3	Power Pack SMD [2]	D2PAK (TO-263AB)	
8	VS-HFA08TB60-M3	Plastic Power Pack	TO-220AC	
8	VS-HFA08TB120S-M3	Power Pack SMD	D2PAK (TO-263AB)	1200
8	VS-HFA08TB60S-M3		D2PAK (TO-263AB)	600
12	VS-HFA12PA120C-N3	Plastic Power Pack [2]	TO-247AC	1200

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ULTRAFAST RECOVERY RECTIFIERS

HEXFRED®

HEXFRED® Standard Products (cont.)

$I_{F(AV)}$ (A)	Device[1]	Package		V_{BR} (V)
		Family	Type	
15	VS-HFA15PB60-N3	Plastic Power Pack	TO-247AC	600
15	VS-HFA15TB60-1-M3		TO-262AA	
15	VS-HFA15TB60-M3		TO-220AC	
15	VS-HFA15TB60S-M3	Power Pack SMD	D^2PAK (TO-263AB)	
16	VS-HFA16PA120C-N3	Plastic Power Pack [2]	TO-247AC	1200
16	VS-HFA16PA60C-N3			600
16	VS-HFA16PB120-N3	Plastic Power Pack	TO-247AC	1200
16	VS-HFA16TA60C-M3		TO-220AB	600
16	VS-HFA16TA60CS-M3	Plastic Power Pack [2]	D^2PAK (TO-263AB)	
16	VS-HFA16TB120-M3	Plastic Power Pack	TO-220AC	1200
16	VS-HFA16TB120S-M3	Power Pack SMD	D^2PAK (TO-263AB)	
25	VS-HFA25PB60-N3	Plastic Power Pack	TO-247AC	600
25	VS-HFA25TB60-M3		TO-220AC	
25	VS-HFA25TB60S-M3	Power Pack SMD	D^2PAK (TO-263AB)	
30	VS-HFA30PA60C-N3	Plastic Power Pack [2]	TO-247AC	
30	VS-HFA30PB120-N3	Plastic Power Pack	TO-247AC	1200
30	VS-HFA30TA60C-M3	Plastic Power Pack [2]	TO-220AB	600
30	VS-HFA25TB60S-M3	Power Pack SMD [2]	D^2PAK (TO-263AB)	
32	VS-HFA32PA120C-N3	Plastic Power Pack [2]	TO-247AC	1200
50	VS-HFA50PA60C-N3			600

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ULTRAFAST RECOVERY RECTIFIERS

Ultrafast Recovery Rectifiers

$I_{F(AV)}$ (A)	Device[1]	Package		V_{BR} Range (V)	Max V_F at I_F		T_{rr} (ns)
		Family	Type		(V)	(A)	
1.0	ES1A through ES1D	Plastic SMD [2]	SMA (DO-214AC)	50 - 200	0.92	1.0	15
1.0	ES1PB, ES1PC, and ES1PD		SMP (DO-220AA)	100 - 200	0.865 / 0.92	0.6 / 1.0	
1.0	ESH1B, ESH1C, and ESH1D		SMA (DO-214AC)		0.87 / 0.90	0.7 / 1.0	25
1.0	ESH1PB, ESH1PC, and ESH1PD		SMP (DO-220AA)		0.86 / 0.90	0.7 / 1.0	
1.0	MURS120		SMB (DO-214AA)	200	0.875	1.0	
1.0	MURS140 and MURS160			400 - 600	1.25		50
1.0	UF4001 through UF4007	Plastic Axial [2]	DO-41 (DO-204AL)	50 - 1000	1.0 / 1.7		50 / 75
1.0	UG1A through UG1D			50 - 200	0.95		15
1.0	EGP10A through EGP10G			50 - 400	0.95 / 1.25		50
1.0	US1A through US1M	Plastic SMD [2]	SMA (DO-214AC)	50 - 1000	1.0 / 1.7		50 / 75
1.2	ES07B	Plastic SMD	SMF (DO-219AB)	100	0.98		25
1.2	ES07D		SMF (DO-219AB)	200			25
1.5	BYG20D through BYG20J	Plastic SMD [2]	SMA (DO-214AC)	200 - 600	1.30		75
1.5	BYG23M			1000	1.70		
2.0	BYG22A through BYG22D			50 - 200	1.10	2.0	25
2.0	ES2A through ES2D		SMB (DO-214AA)	50 - 200	0.90		20
2.0	ES2F and ES2G			300 - 400	1.10		35
2.0	ESH2B, ESH2C, and ESH2D			100 - 200	0.93		25
2.0	ESH2PB, ESH2PC, and ESH2PD		SMP (DO-220AA)	100 - 200	0.98		
2.0	MURS240 and MURS260		SMB (DO-214AA)	400 - 600	1.45		50
2.0	SBYV27-50 through SBYV27-200	Plastic Axial [2]	DO-15 (DO-204AC)	50 - 200	1.07	3.0	15
2.0	U2B, U2C, and U2D	Plastic SMD	SMB (DO-214AA)	100 - 200	0.90	2.0	20
2.0	UG2A through UG2D	Plastic Axial [2]	DO-15 (DO-204AC)	50 - 200	0.95		15
2.0	UG2F and UG2G			300 - 400	1.10		35
2.0	EGP20A through EGP20G			50 - 400	0.95 / 1.25		50
3.0	EGP31A through EGP31G		DO-201AD			3.0	
5.0	EGP51A through EGP51G					5.0	
2.0	USB260	Plastic SMD [2]	SMB (DO-214AA)	600	1.60	2.0	30
3.0	31GF4	Plastic Axial [2]	DO-201AD	400	1.25	3.0	
3.0	31GF6			600	1.60		
3.0	ES3A through ES3D	Plastic SMD [2]	SMC (DO-214AB)	50 - 200	0.90		20
3.0	ES3F and ES3G			300 - 400	1.10		35
3.0	ESH3B, ESH3C, and ESH3D			100 - 200	0.90		25
3.0	MURS320			200	0.875		
3.0	MURS340 and MURS360			400 and 600	1.25 / 1.28	3.0 / 4.0	50
3.0	MURS340S and MURS360S	Plastic SMD	SMB (DO-214AA)		1.45	3.0	
3.0	U3B, U3C, and U3D	Plastic SMD [4]	SMC (DO-214AB)	100 - 200	0.90		20

Notes:
(1) Bold text = new products ; (2) Glass passivated die; (3) Dual center-tapped device (V_F limit at I_F is per diode); (4) Oxide planar die

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ULTRAFAST RECOVERY RECTIFIERS

Ultrafast Recovery Rectifiers (cont.)

$I_{F(AV)}$ (A)	Device[1]	Package		V_{BR} Range (V)	Max V_F at I_F		T_{rr} (ns)
		Family	Type		(V)	(A)	
3.0	UF5400 through UF5408	Plastic Axial [2]	DO-201AD	50 - 1000	1.0 / 1.7	3.0	50 / 75
3.5	SBYV28-50 through SBYV28-200			50 - 200	1.10	3.5	20
4.0	MUR420			200	0.89	4.0	25
4.0	MUR440 and MUR460			400 - 600	1.28		50
4.0	UG4A through UG4D			50 - 200	0.95		20
8.0	BYV29-300 and BYV29-400	Plastic Power Pack [2]	TO-220AC	300 - 400	1.25	8.0	35
8.0	BYV29B-300 and BYV29B-400	Power Pack SMD [2]	D^2PAK (TO-263AB)				
8.0	BYV29F-300 and BYV29F-400	Isolated Power Pack [2]	ITO-220AC				
8.0	BYW29-50 through BYW29-200	Plastic Power Pack [2]	TO-220AC	50 - 200	1.30	20	25
8.0	BYWB29-50 through BYWB29-200	Power Pack SMD [2]	D^2PAK (TO-263AB)				
8.0	BYWF29-50 through BYWF29-200	Isolated Power Pack [2]	ITO-220AC				
8.0	FES8AT through FES8JT	Plastic Power Pack [2]	TO-220AC	50 - 600	0.95 / 1.3 / 1.5	8.0	35 / 50
8.0	FESB8AT through FESB8JT	Power Pack SMD [2]	D^2PAK (TO-263AB)				
8.0	FESF8AT through FESF8JT	Isolated Power Pack [2]	ITO-220AC				
8.0	GI1401 through GI1404	Plastic Power Pack [2]	TO-220AC	50 - 200	0.975		35
8.0	GIB1401 through GIB1404	Power Pack SMD [2]	D^2PAK (TO-263AB)				
8.0	UG8AT through UG8DT	Plastic Power Pack [2]	TO-220AC		1.00		20
8.0	UGB8AT through UGB8DT	Power Pack SMD [2]	D^2PAK (TO-263AB)				
8.0	UGF8AT through UGF8DT	Isolated Power Pack [2]	ITO-220AC				
8.0	UG8FT and UG8GT	Plastic Power Pack [2]	TO-220AC	300 - 400	1.25		35
8.0	UGB8FT and UGB8GT	Power Pack SMD [2]	D^2PAK (TO-263AB)				
8.0	UGF8FT and UGF8GT	Isolated Power Pack [2]	ITO-220AC				
8.0	UG8HT and UG8JT	Plastic Power Pack [2]	TO-220AC	500 - 600	1.75		25
8.0	UGB8HT and UGB8JT	Power Pack SMD [2]	D^2PAK (TO-263AB)				
8.0	UGF8HT and UGF8JT	Isolated Power Pack [2]	ITO-220AC				
10	BYQ28E-100 through BYQ28E-200	Plastic Power Pack	TO-220AB	100 - 200	1.10	5.0	20
10	BYQ28EB-100 through BYQ28EB-200	Plastic Pack SMD	D^2PAK (TO-263AB)				
10	BYQ28EF-100 through BYQ28EF-200	Isolated Power Pack [2][3]	ITO-220AB				
10	BYT28-300 and BYT28-400	Plastic Power Pack [2][3]	TO-220AB	300 - 400	1.30		35
10	BYT28B-300 and BYT28B-400	Power Pack SMD [2][3]	D^2PAK (TO-263AB)				
10	BYT28F-300 and BYT28F-400	Isolated Power Pack [2][3]	ITO-220AB				
10	UG10BCT through UG10DCT	Plastic Power Pack [2][3]	TO-220AB	100 - 200	1.10		20
10	UGB10BCT through UGB10DCT	Power Pack SMD [2][3]	D^2PAK (TO-263AB)				
10	UGF10BCT through UGF10DCT	Isolated Power Pack [2][3]	ITO-220AB				
10	UG10FCT and UG10GCT	Plastic Power Pack [2][3]	TO-220AB	300 - 400	1.30		35
10	UGB10FCT and UGB10GCT	Power Pack SMD [2][3]	D^2PAK (TO-263AB)				
10	UGF10FCT and UGF10GCT	Isolated Power Pack [2][3]	ITO-220AB				

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ULTRAFAST RECOVERY RECTIFIERS

Ultrafast Recovery Rectifiers (cont.)

$I_{F(AV)}$ (A)	Device[1]	Package		V_{BR} Range (V)	Max V_F at I_F		T_{rr} (ns)
		Family	Type		(V)	(A)	
16	FEP16AT through FEP16JT	Plastic Power Pack [2][3]	TO-220AB	50 - 600	0.95 / 1.30 / 1.50	8	35 / 50
16	FEPB16AT through FEPB16JT	Power Pack SMD [2][3]	D²PAK (TO-263AB)			8	
16	FEPF16AT through FEPF16JT	Isolated Power Pack [2][3]	ITO-220AB			8	
16	FES16AT through FES16JT	Plastic Power Pack [2][3]	TO-220AC		0.975 / 1.30 / 1.50	16	
16	FESB16AT through FESB16JT	Power Pack SMD [2][3]	D²PAK (TO-263AB)				
16	FESF16AT through FESF16JT	Isolated Power Pack [2][3]	ITO-220AC				
16	GI2401 through GI2404	Plastic Power Pack [2][3]	TO-220AB	50 - 200	0.975	8.0	35
16	GIB2401 through GIB2404	Power Pack SMD [2][3]	D²PAK (TO-263AB)				
18	BYV32-50 through BYV32-200	Plastic Power Pack [2][3]	TO-220AB		1.15	20	25
18	BYVB32-50 through BYVB32-200	Power Pack SMD [2][3]	D²PAK (TO-263AB)				
18	BYVF32-50 through BYVF32-200	Isolated Power Pack [2][3]	ITO-220AB				
18	UG18ACT through UG18DCT	Plastic Power Pack [2][3]	TO-220AB		1.10	9.0	20
18	UGB18ACT through UGB18DCT	Power Pack SMD [2][3]	D²PAK (TO-263AB)				
18	UGF18ACT through UGF18DCT	Isolated Power Pack [2][3]	ITO-220AB				
30	FEP30AP through FEP30JP	Plastic Power Pack [2][3]	TO-247AD	50 - 600	0.95 / 1.3 / 1.5	15	35 / 50
30	UG30APT through UG30DPT			50 - 200	1.00		25

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ULTRAFAST RECOVERY RECTIFIERS

Avalanche

Avalanche

$I_{F(AV)}$ (A)	Device[1]	Package		V_{RRM} (V)	V_F at 25 °C (V)	at I_F (A)	t_{rr} Max. (ns)	E_R (mJ)	at I_R (A)	T_j, T_{STG} Max. (°C)
		Family	Type							
1.0	AU1PD	Plastic SMD	SMP (DO-220AA)	200	1.5	1.0	75	20	1.0	175
1.0	AU1PG			400						
1.0	AU1PJ			600						
1.0	AU1PK			800	1.85					
1.0	AU1PM			1000						
1.0	BYG23T		SMA (DO-214AC)	1300	1.9			5	0.4	150
1.5	BYG20D			200	1.4	1.5		20	1.0	
1.5	BYG20G			400						
1.5	BYG20J			600						
1.5	BYG23M			1000	1.7	1.0				
2.0	AU2PD		SMPC (TO-277A)	200	1.9	2.0			2.5	175
2.0	AU2PG			400						
2.0	AU2PJ			600						
2.0	AU2PK			800	2.5					
2.0	AU2PM			1000						
2.0	BYG22A		SMA (DO-214AC)	50	1.1		25		1.0	150
2.0	BYG22B			100						
2.0	BYG22D			200						
3.0	AU3PD		SMPC (TO-277A)	200	1.9	3.0	75		2.5	175
3.0	AU3PG			400						
3.0	AU3PJ			600						
3.0	AU3PK			800	2.5					
3.0	AU3PM			1000						

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ULTRAFAST RECOVERY RECTIFIERS

Avalanche-Rated

Avalanche-Rated Sinterglass Diodes

$I_{F(AV)}$ (A)	Device	Package		V_R, V_{RRM}, V_{RWM} (V)	V_F at 25 °C (V)	At I_F (A)	t_{rr} Max. (ns)	E_R (mJ)	At I_R (A)
		Family	Type						
1.0	BYV26A	Sinterglass - Axial	SOD-57	200	2.5	1	30	10	1.0
1.0	BYV26B			400		1			
1.0	BYV26C			600		1			
1.0	BYV26D			800		1	75		
1.0	BYV26E			1000		1			
1.0	SF1200			1200	3.4	1			0.4
1.0	SF1600			1600		1			
1.0	SF4001			50	1.0	1	50		
1.0	SF4002			100		1			
1.0	SF4003			200		1			
1.0	SF4004			400		1			
1.0	SF4005			600	1.7	1	75		
1.0	SF4006			800		1			
1.0	SF4007			1000		1			
1.9	BYT53A			50	1.1	1	50	20	1.0
1.9	BYT53B			100		1			
1.9	BYT53C			150		1			
1.9	BYT53D			200		1			
1.9	BYT53F			300		1			
1.9	BYT53G			400		1			
2.0	BYV27-100			100	1.07	3	25		
2.0	BYV27-150			150		3			
2.0	BYV27-200			200		3			
2.0	BYV27-50			50		3			
2.0	BYV27-600			600	1.35	3	40	10	0.4
3.0	BYW178		SOD-64	800	1.9	3	60	20	1.0
3.0	SF5400			50	1.1	3	50	10	0.4
3.0	SF5401			100		3			
3.0	SF5402			200		3			
3.0	SF5403			300		3			
3.0	SF5404			400		3			
3.0	SF5405			500	1.7	3	75		
3.0	SF5406			600		3			
3.0	SF5407			800		3			
3.0	SF5408			1000		3			

Note: E_R = Pulse energy in avalanche mode

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ULTRAFAST RECOVERY RECTIFIERS

Avalanche-Rated

Avalanche-Rated Sinterglass Diodes (cont.)

$I_{F(AV)}$ (A)	Device	Package		V_R, V_{RRM}, V_{RWM} (V)	V_F at 25 °C (V)	At I_F (A)	t_{rr} Max. (ns)	E_R (mJ)	At I_R (A)
		Family	Type						
3.5	BYV28-100	Sinterglass - Axial	SOD-64	100	1.1	5	30	20	1.0
3.5	BYV28-150			150		5			
3.5	BYV28-200			200		5			
3.5	BYV28-50			50		5			
3.5	BYV28-600			600	1.35	5	50		
4.0	BYV98-100			150	1.1	5	35		
4.0	BYV98-150			150		5			
4.0	BYV98-200			200		5			
4.0	BYV98-50			100		5			

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