Power MOSFETs progress in power switching

Selection guide

May 2005

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MDmesh product range

Part number	V_{DSS} [V]	$R_{DS(on)}$(max) @ 10V [Ω]	Q_g(typ) @ 10V [nC]	$R_{DS(on)}$*Q_g (typ) [Ω * nC]	$I_{D(cont)}$ [A]	Package	T_{rr} (typ) @ 25°C [ns]	Q_{rr} (typ) @ 25°C [µC]	I_{rrm} (typ) @ 25°C [A]	dv/dt [V/ns]
STE70NM50	500	0.05	190	190	70	ISOTOP	532	9.9	37	15
STY60NM50	500	0.05	190	190	60	Max247	532	9.9	37	15
STW45NM50FD	500	0.1	92	6.44	45	TO-247	245	2.2	18	20
STE48NM50	500	0.1	87	6.96	48	ISOTOP	520	7.8	30	15
STW45NM50	500	0.1	87	6.96	45	TO-247	520	7.8	30	15
STW26NM50	500	0.12	76	7.6	30	TO-247	400	5.5	27.5	15
STB25NM50NT4*	500	0.14	40	4.8	22	D^2PAK				
STB25NM50N-1*	500	0.14	40	4.8	22	I^2PAK				
STP25NM50N*	500	0.14	40	4.8	22	TO-220				
STF25NM50N*	500	0.14	40	4.8	22	TO-220FP				
STW25NM50N*	500	0.14	40	4.8	22	TO-247				
STB20NM50FDT4	500	0.25	38	8.36	20	D^2PAK	175	1.2	14	20
STP20NM50FD	500	0.25	38	8.36	20	TO-220	175	1.2	14	20
STW20NM50FD	500	0.25	38	8.36	20	TO-247	175	1.2	14	20
STB20NM50T4	500	0.25	40	8	20	D^2PAK	350	4.6	26	15
STB20NM50-1	500	0.25	40	8	20	I^2PAK	350	4.6	26	15
STP20NM50	500	0.25	40	8	20	TO-220	350	4.6	26	15
STP20NM50FP	500	0.25	40	8	20	TO-220FP	350	4.6	26	15
STW20NM50	500	0.25	40	8	20	TO-247	350	4.6	26	15
STB12NM50T4	500	0.35	28	8.4	12	D^2PAK	270	2.23	16.5	15
STB12NM50-1	500	0.35	28	8.4	12	I^2PAK	270	2.23	16.5	15
STP12NM50	500	0.35	28	8.4	12	TO-220	270	2.23	16.5	15
STP12NM50FP	500	0.35	28	8.4	12	TO-220FP	270	2.23	16.5	15
STW14NM50	500	0.35	28	8.4	12	TO-247	270	2.23	16.5	15
STB12NM50FDT4	500	0.4	27.5	8.8	12	D^2PAK	116	0.46	8	20
STB12NM50FD-1	500	0.4	27.5	8.8	12	I^2PAK	116	0.46	8	20
STP12NM50FD	500	0.4	27.5	8.8	12	TO-220	116	0.46	8	20
STP12NM50FDFP	500	0.4	27.5	8.8	12	TO-220FP	116	0.46	8	20
STW14NM50FD	500	0.4	27.5	8.8	14	TO-247	116	0.46	8	20
STD5NM50T4	500	0.8	13	9.1	7.5	DPAK	185	1.1	11.5	15
STP8NM50	500	0.8	13	9.1	7.5	TO-220	185	1.1	11.5	15
STP8NM50FP	500	0.8	13	9.1	7.5	TO-220FP	185	1.1	11.5	15
STD3NM50T4	500	3	5.5	13.75	3	DPAK	210	0.79	7.5	15
STE70NM60	600	0.055	178	8.9	70	ISOTOP	600	14.4	48	15
STY60NM60	600	0.055	178	8.9	60	Max247	600	14.4	48	15
STW45NM60	600	0.11	96	8.64	45	TO-247	508	10	40	15
STW26NM60	600	0.135	73	9.125	30	TO-247	73	45	30.5	15
STW30NM60D	600	0.145	73	10.25	30	TO-247	165	1.1	14	20
STB25NM60NT4*	600	0.17			20	D^2PAK				
STB25NM60N-1*	600	0.17			20	I^2PAK				

* Coming soon Fast diode version in blue characters

MDmesh product range

Part number	V_{DSS} [V]	$R_{DS(on)}$(max) @ 10V [Ω]	Q_g(typ) @ 10V [nC]	$R_{DS(on)}$*Q_g (typ) [Ω * nC]	$I_{D(cont)}$ [A]	Package	T_{rr} (typ) @ 25°C [ns]	Q_{rr} (typ) @ 25°C [µC]	I_{rrm} (typ) @ 25°C [A]	dv/dt [V/ns]
STP25NM60N*	600	0.17			20	TO-220				
STF25NM60N*	600	0.17			20	TO-220FP				
STW25NM60N*	600	0.17			20	TO-247				
STP20NM60FD	600	0.29	40	9.62	20	TO-220	170	1.06	12.5	20
STW20NM60FD	600	0.29	40	9.62	20	TO-247	170	1.06	12.5	20
STB20NM60T4	600	0.29	39	9.75	20	D^2PAK	390	2	25	15
STP20NM60	600	0.29	39	9.75	20	TO-220	390	2	25	15
STP20NM60FP	600	0.29	39	9.75	20	TO-220FP	390	2	25	15
STW20NM60	600	0.29	96	9.75	20	TO-247	390	2	25	15
STB11NM60FDT4	600	0.45	28	11.2	11	D^2PAK	190	1.1	14.5	20
STB11NM60FD-1	600	0.45	28	11.2	11	I^2PAK	190	1.1	14.5	20
STP11NM60FD	600	0.45	28	11.2	11	TO-220	190	1.1	14.5	20
STP11NM60FDFP	600	0.45	28	11.2	11	TO-220FP	190	1.1	14.5	20
STB11NM60T4	600	0.45	30	11.2	11	D^2PAK	390	3.8	19.5	15
STB11NM60-1	600	0.45	30	11.2	11	I^2PAK	390	3.8	19.5	15
STP11NM60	600	0.45	30	11.2	11	TO-220	390	3.8	19.5	15
STP11NM60FP	600	0.45	30	11.2	11	TO-220FP	390	3.8	19.5	15
STD5NM60T4	600	1	13	11.7	5	DPAK	300	1.95	13	15
STD5NM60-1	600	1	13	11.7	5	IPAK	300	1.95	13	15
STP8NM60	600	1	13	11.7	8	TO-220	300	1.95	13	15
STP8NM60FP	600	1	13	11.7	8	TO-220FP	300	1.95	13	15
STD3NM60T4	600	1.5	10	19.2	3	DPAK	224	1	9	15
STD2NM60T4	600	3.2	6	14	2	DPAK	516	0.516	2	15
STB11NM80T4	800	0.4	40	14	11	D^2PAK	612	7.22	23.6	
STP11NM80	800	0.4	40	14	11	TO-220	612	7.22	23.6	
STF11NM80	800	0.4	40	14	11	TO-220FP	612	7.22	23.6	
STW11NM80	800	0.4	40	14	11	TO-247	612	7.22	23.6	

SuperFREDmesh product range

Part number	V_{DSS} [V]	$R_{DS(on)}$(max) @ 10V [Ω]	Q_g(typ) @ 10V [nC]	$R_{DS(on)}$*Q_g (typ) [Ω * nC]	$I_{D(cont)}$ [A]	Package	T_{rr} (typ) @ 25°C [ns]	Q_{rr} (typ) @ 25°C [µC]	I_{rrm} (typ) @ 25°C [A]	dv/dt [V/ns]
STW29NK50ZD*	500	0.15	180	19.8	29	TO-247				8
STB9NK60ZDT4	600	0.95	41	43.85	7	D^2PAK	150	0.663	8.5	15
STP9NK60ZD	600	0.95	41	34.85	7	TO-220	150	0.663	8.5	15
STF9NK60ZD	600	0.95	41	34.85	7	TO-220FP	150	0.663	8.5	15
STE45NK80ZD	800	0.13	558	61.38	45	ISOTOP	375	4.65	24.8	8
STE40NK90ZD	900	0.17	590	82.6	40	ISOTOP	450	3.6	16.2	8

* Coming soon Fast diode version in blue characters

SOT23-3L

V_{DSS} [V]	$R_{DS(on)}$(max) @ 10V [Ω]	Part number	$I_{D(cont)}$ [A]	$R_{DS(on)}$(max) @ 4.5V or 5V [Ω]	Q_g(typ) @ 10V [nC]
60	5	**2N7002**	0.25	5.3	5.00

SOT23-6L

V_{DSS} [V]	$R_{DS(on)}$(max) @ 10V [Ω]	Part number	$I_{D(cont)}$ [A]	$R_{DS(on)}$(max) @ 4.5V or 5V [Ω]	Q_g(typ) @ 10V [nC]
-60	0.3	**STT2PF60L**	-2	0.30	10.00
-30	0.2	**STT3PF30L**	-3	0.20	11.00

V_{DSS} [V]	$R_{DS(on)}$(max) @ 4.5V [Ω]	Part number	$I_{D(cont)}$ [A]	$R_{DS(on)}$(max) @ 2.7V [Ω]	Q_g(typ) @ 4.5V [nC]
-20	0.2	**STT3PF20V**	-3	0.25	3.80
	0.08	**STT5PF20V**	-5	0.1	9.3

TSSOP8

V_{DSS} [V]	$R_{DS(on)}$(max) @ 4.5V [Ω]	Part number	$I_{D(cont)}$ [A]	$R_{DS(on)}$(max) @ 2.7V [Ω]	Q_g(typ) @ 4.5V [nC]
20	0.04	**STC5NF20V**	5	0.045	8.5
30	0.025	**STC6NF30V**	6	0.030	11.0
	0.031	**STC5NF30V**	5	0.035	8.5

SOT-223

V_{DSS} [V]	$R_{DS(on)}$(max) @ 10V [Ω]	Part number	$I_{D(cont)}$ [A]	$R_{DS(on)}$(max) @ 4.5V or 10V [Ω]	Q_g(typ) @ 10V [nC]
-60	0.2	**STN3PF06**	-2.5		16

V_{DSS} [V]	$R_{DS(on)}$(max) @ 4.5V [Ω]	Part number	$I_{D(cont)}$ [A]	$R_{DS(on)}$(max) @ 2.7V [Ω]	Q_g(typ) @ 4.5V [nC]
-20	0.08	**STN5PF02V**	-5	0.1	9.3

V_{DSS} [V]	$R_{DS(on)}$(max) @ 10V [Ω]	Part number	$I_{D(cont)}$ [A]	$R_{DS(on)}$(max) @ 4.5V or 5V [Ω]	Q_g(typ) @ 10V [nC]
30	0.05	**STN4NF03L**	4	0.06	12
60	0.10	**STN3NF06L**	3	0.12	12
100	0.26	**STN2NF10**	2		10
	0.80	**STN1NF10**	1		4
200	1.5	**STN1N20**◊	1		11
600	15	**STN1NK60Z**	0.3		4.9
800	16	**STN1NK80Z***	0.3		5

* Coming soon V = Super logic level ◊ STripFET technology

PowerFLAT 3.3 x 3.3

V_{DSS} [V]	$R_{DS(on)}$(max) @ 10V [Ω]	Part number	$I_{D(cont)}$ [A]	$R_{DS(on)}$(max) @ 4.5V or 5V [Ω]	Q_g(typ) @ 10V [nC]
30	0.015	**STL8NH3LL**	8	0.017	18

PowerFLAT 5 x 5

V_{DSS} [V]	$R_{DS(on)}$(max) @ 10V [Ω]	Part number	$I_{D(cont)}$ [A]	$R_{DS(on)}$(max) @ 4.5V or 5V [Ω]	Q_g(typ) @ 10V [nC]
650	1.8	**STL5NK65Z**	5		31

PowerFLAT 6 x 5

V_{DSS} [V]	$R_{DS(on)}$(max) @ 4.5V [Ω]	Part number	$I_{D(cont)}$ [A]	$R_{DS(on)}$(max) @ 2.7V [Ω]	Q_g(typ) @ 4.5V [nC]
20	0.003	**STL120NH02V***	120	0.004	60

V_{DSS} [V]	$R_{DS(on)}$(max) @ 10V [Ω]	Part number	$I_{D(cont)}$ [A]	$R_{DS(on)}$(max) @ 4.5V or 5V [Ω]	Q_g(typ) @ 10V [nC]
30	0.0130	**STL50NH3LL**	27	0.015	18
	0.0055	**STL80NF3LL***	80	0.007	55
	0.0035	**STL100NH3LL***	100	0.005	70

PowerSO-8

V_{DSS} [V]	$R_{DS(on)}$(max) @ 10V [Ω]	Part number	$I_{D(cont)}$ [A]	$R_{DS(on)}$(max) @ 4.5V or 5V [Ω]	Q_g(typ) @ 10V [nC]
30	0.0035	**STSJ100NH3LL**	100	0.005	70
	0.0055	**STSJ80NF3LL***	80	0.007	55
	0.0105	**STSJ25NF3LL**	25	0.013	40
	0.019	**STSJ18NF3LL**	18	0.019	22

SO-8

V_{DSS} [V]	$R_{DS(on)}$(max) @ 10V [Ω]	Part number	$I_{D(cont)}$ [A]	$R_{DS(on)}$(max) @ 4.5V or 5V [Ω]	Q_g(typ) @ 4.5V [nC]
-60	0.120	**STS4C3F60L**	-3	0.160	23.5
60	0.055		4	0.065	32
-60	0.12	**STS3DPF60L**	-3	0.160	23.5
-45	0.10	**STS3DPFS45**	-3		24.5
-30	0.014	**STS10PF30L**	-10	0.018	60
	0.021	**STS7PF30L**	-7	0.028	60
	0.03	**STS6PF30L**	-6	0.040	35
	0.08	**STS4DPF30L**	-4	0.10	30
	0.08	**STS5PF30L**	-5	0.10	30

* Coming soon V = Super logic level LL = 4.5V drive optimization

SO-8 cont'd

V_{DSS} [V]	$R_{DS(on)}$(max) @ 4.5V [Ω]	Part number	$I_{D(cont)}$ [A]	$R_{DS(on)}$(max) @ 2.7V [Ω]	Q_g(typ) @ 4.5V [nC]
-20	0.08	**STS5PF20V**	-5	0.1	9.3
	0.2	**STS2DPFS20V**	-2	0.25	3.8

V_{DSS} [V]	$R_{DS(on)}$(max) @ 10V [Ω]	Part number	$I_{D(cont)}$ [A]	$R_{DS(on)}$(max) @ 4.5V or 5V [Ω]	Q_g(typ) @ 10V [nC]
-20	0.07	**STS4DPF20L**	-4	0.085	30

V_{DSS} [V]	$R_{DS(on)}$(max) @ 4.5V [Ω]	Part number	$I_{D(cont)}$ [A]	$R_{DS(on)}$(max) @ 2.7V [Ω]	Q_g(typ) @ 4.5V [nC]
20	0.04	**STS6NF20V**	6	0.045	8.5
	0.04	**STS5DNF20V**	5	0.045	8.5

V_{DSS} [V]	$R_{DS(on)}$(max) @ 10V [Ω]	Part number	$I_{D(cont)}$ [A]	$R_{DS(on)}$(max) @ 4.5V or 5V [Ω]	Q_g(typ) @ 10V [nC]
-30	0.055	**STS8C5H30L**	-4.2	0.075	12.5
30	0.022		8	0.025	7
	0.0035	**STS25NH3LL**	25	0.005	70
	0.0055	**STS17NF3LL**	17	0.007	55
	0.009	**STS12NF30L**	12	0.011	66
	0.0105	**STS12NH3LL**	12	0.013	
	0.0105	**STS11NF30L**	11	0.019	33
	0.02	**STS9NF30L**	9	0.038	22
	0.02	**STS8DNF3LL**	8	0.023	22
	0.022	**STS8DNH3LL**	8	0.025	16
	0.05	**STS4DNFS30L**	4	0.06	12
	0.11	**STS2DNF30L**	2	0.15	4.5
60	0.055	**STS4DNF60L**	4	0.065	32
	0.055	**STS5NF60L**	5	0.065	32
	0.23	**STS2DNE60**	2		12
100	0.06	**STS4NF100**	4		30
450	4.5	**STS1DNC45**	0.4		7
600	8.5	**STS1HNK60**	0.8		7
	15	**STS1NK60Z**	0.3		4.9

DPAK

V_{DSS} [V]	$R_{DS(on)}$(max) @ 10V [Ω]	Part number	$I_{D(cont)}$ [A]	$R_{DS(on)}$(max) @ 4.5V or 5V [Ω]	Q_g(typ) @ 10V [nC]
-60	0.2	**STD10PF06T4**	-10		16
-30	0.028	**STD30PF03LT4**	-24	0.04	35
24	0.0035	**STD150NH02LT4**	150	0.0065	69
	0.0048	**STD100NH02LT4**	60	0.009	62

* Coming soon V = Super logic level D = Dual DPFS = P-Channel + Schottky diode C = Complementary pair
LL = 4.5V drive optimization

DPAK

V_{DSS} [V]	$R_{DS(on)}$(max) @ 10V [Ω]	Part number	$I_{D(cont)}$ [A]	$R_{DS(on)}$(max) @ 4.5V or 5V [Ω]	Q_g(typ) @ 10V [nC]
24	0.005	**STD95NH02LT4**	80	0.009	43
	0.006	**STD90NH02LT4**	60	0.011	47.5
	0.008	**STD70NH02LT4**	60	0.014	32
	0.0105	**STD50NH02LT4**	50	0.02	24
	0.011	**STD55NH2LLT4**	40	0.0135	20
	0.0135	**STD38NH02LT4**	38	0.025	18
30	0.0055	**STD100NH03LT4**	60	0.0105	57
	0.009	**STD60NH03LT4**	60	0.017	
	0.0095	**STD60NF3LLT4**	60	0.0105	54
	0.011	**STD40NF03LT4**	40	0.0195	33
	0.011	**STD40NF3LLT4**	40	0.0135	40
	0.0195	**STD35NF3LLT4**	35	0.0215	22
	0.025	**STD30NF03LT4**	30	0.035	31
	0.05	**STD17NF03LT4**	17	0.06	9
55	0.015	**STD60NF55LT4**	60	0.02	72
60	0.016	**STD60NF06T4**	60		49
	0.0195	**STD35NF06LT4**	35	0.0215	50
	0.02	**STD35NF06T4**	35		45
	0.028	**STD30NF06T4**	28		43
	0.028	**STD30NF06LT4**	28	0.03	42
	0.04	**STD20NF06T4**	20		23
	0.04	**STD20NF06LT4**	20	0.048	13
	0.07	**STD16NF06T4**	16		14
	0.07	**STD16NF06LT4**	16		25
	0.1	**STD12NF06T4**	12		10
	0.1	**STD12NF06LT4**	12	0.12	12
100	0.035	**STD25NF10LT4**	25	0.04	70
	0.038	**STD25NF10T4**	25		55
	0.065	**STD15NF10T4**	23		30
	0.085	**STD16NE10LT4**	22	0.1	45
	0.13	**STD10NF10T4**	13		15
	0.25	**STD6NF10T4**	6		10
200	0.125	**STD20N20T4**◊	18		28
	0.8	**STD5N20T4**◊	5		19
		STD5N20LT4◊	5	0.7	
250	1.10	**STD4NS25T4**	4		19
400	1.00	**STD7NK40ZT4**	6		20
	1.80	**STD5NK40ZT4**	4		12
450	4.50	**STD2NC45T4**	1.5		7
500	0.8	**STD5NM50T4**	7.5		13
	1.2	**STD6NK50ZT4**	5.6		24.6
	1.5	**STD5NK50ZT4**	4.4		20
	2.7	**STD4NK50ZT4**	3		12

* Coming soon LL = 4.5V drive optimization ◊ STripFET technology

DPAK cont'd.

V_{DSS} [V]	$R_{DS(on)}$(max) @ 10V [Ω]	Part number	$I_{D(cont)}$ [A]	$R_{DS(on)}$(max) @ 4.5V or 5V [Ω]	Q_g(typ) @ 10V [nC]
500	3	**STD3NM50T4**	3		5.5
	3.3	**STD3NK50ZT4***	2.3		11
600	1	**STD5NM60T4**	5		13
	1.5	**STD3NM60T4**	3		10
	1.6	**STD5NK60ZT4**	5		25
	2	**STD4NK60ZT4**	4		19
	3.2	**STD2NM60T4**	2		6
	3.6	**STD3NK60ZT4**	3		12.5
	5	**STD1HNC60T4**	1.3		11.3
	8.5	**STD1NK60T4**	1		7
700	7	**STD2NK70ZT4***	1.6		11.4
800	3.5	**STD4NK80ZT4**	3		22.5
	4.5	**STD3NK80ZT4**	2.5		18
	16	**STD1NK80ZT4***	1		5
900	4.80	**STD3NK90ZT4**	2.8		25
	6.50	**STD2NK90ZT4**	2.1		19.5

D^2PAK

V_{DSS} [V]	$R_{DS(on)}$(max) @ 10V [Ω]	Part number	$I_{D(cont)}$ [A]	$R_{DS(on)}$(max) @ 4.5V or 5V [Ω]	Q_g(typ) @ 10V [nC]
-60	0.1200	**STB16PF06LT4**	-16	0.16	23.5
-55	0.0180	**STB80PF55T4**	-80		190.0
24	0.006	**STB100NH02LT4**	80	0.011	47.5
	0.008	**STB75NH02LT4**	60	0.014	32
	0.0105	**STB60NH02LT4**	60	0.02	24
30	0.0032	**STB100NF03L-03T4**	100	0.0045	160
	0.0033	**STB160NF3LLT4**	160	0.0048	150
	0.0036	**STB200NF03T4**	120		113
	0.004	**STB80NF03L-04T4**	80	0.0055	150
	0.0055	**STB120NH03LT4**	60	0.0105	57
	0.008	**STB85NF3LLT4**	85	0.0095	54
	0.009	**STB70NH03LT4**	60	0.017	
	0.0095	**STB70NFS03LT4**	70	0.018	33
	0.0095	**STB70NF03LT4**	70	0.018	33
	0.0095	**STB70NF3LLT4**	70	0.012	40
	0.013	**STB55NF03LT4**	55	0.021	35
	0.018	**STB45NF3LLT4**	45	0.02	22
40	0.0037	**STB200NF04T4**	120		170
	0.0046	**STB100NF04T4**	120		110
55	0.006	**STB150NF55T4**	120		140

* Coming soon LL = 4.5V drive optimization

D²PAK

V_{DSS} [V]	$R_{DS(on)}$(max) @ 10V [Ω]	Part number	$I_{D(cont)}$ [A]	$R_{DS(on)}$(max) @ 4.5V or 5V [Ω]	Q_g(typ) @ 10V [nC]
55	0.0065	STB80NF55-06T4	80		140
	0.0065	STB80NF55L-06T4	80	0.008	175
	0.008	STB80NF55-08T4	80		115
	0.008	STB80NF55L-08T4	80	0.01	110
	0.08	STB140NF55T4	80		142
60	0.014	STB60NF06LT4	60	0.016	65
	0.016	STB60NF06T4	60		49
	0.018	STB55NF06LT4	55	0.02	50
	0.018	STB55NF06T4	55		45
	0.028	STB45NF06T4			43
	0.04	STB36NF06LT4	30	0.048	13
	0.1	STB16NF06LT4	16	0.12	12
75	0.0080	STB140NF75T4	140		150
100	0.0105	STB120NF10T4	120		172
	0.015	STB80NF10T4	80		135
	0.028	STB40NF10T4	40		60
	0.033	STB40NF10LT4	40	0.036	60
	0.035	STB35NF10T4	40		55
	0.045	STB30NF10T4	35		40
150	0.0520	STB40NS15T4	40		100
250	0.15	STB22NS25ZT4	20		120
	0.28	STB16NS25T4	16		59
400	0.55	STB11NK40ZT4	9		30
500	0.14	STB25NM50NT4*	22		40
	0.25	STB20NM50FDT4	20		38
	0.25	STB20NM50T4	20		40
	0.27	STB20NK50ZT4	18		95
	0.34	STB15NK50ZT4	14		76
	0.35	STB12NM50T4	12		28
	0.4	STB12NM50FDT4	12		27.5
	1.5	STB5NK50ZT4	4.4		20
600	0.17	STB25NM60NT4*	20		
	0.29	STB20NM60T4	20		39
	0.45	STB11NM60T4	11		30
	0.45	STB11NM60FDT4	11		28
	0.5	STB14NK60ZT4	13.5		75
	0.95	STB9NK60ZT4	9		40
	0.95	STB9NK60ZDT4	7		41
	1.2	STB6NK60ZT4	6		33
	2	STB4NK60ZT4	4		19
	3.6	STB3NK60ZT4	3		12.5
700	1.20	STB9NK70ZT4	7.5		48
800	0.40	STB11NM80T4	11		40
	0.75	STB12NK80ZT4	10.5		87

* Coming soon LL = 4.5V drive optimization Fast diode version in blue characters

PowerSO-10

V_{DSS} [V]	$R_{DS(on)}$(max) @ 10V [Ω]	Part number	$I_{D(cont)}$ [A]	$R_{DS(on)}$(max) @ 4.5V or 5V [Ω]	Q_g(typ) @ 10V [nC]
20	0.0025	STV160NF02LT4	160	0.0060	115
	0.0027	STV160NF02LAT4	160	0.0064	130
30	0.0028	STV160NF03LT4	160	0.0067	103
	0.003	STV160NF03LAT4	160	0.0070	123

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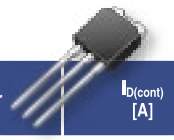
V_{DSS} [V]	$R_{DS(on)}$(max) @ 10V [Ω]	Part number	$I_{D(cont)}$ [A]	$R_{DS(on)}$(max) @ 4.5V or 5V [Ω]	Q_g(typ) @ 10V [nC]
60	5	2N7000	0.35	5.30	
100	0.4	STQ1NE10L-AP	1	0.50	16
450	4.5	STQ1NC45R-AP	0.5		7
500	3.3	STQ3NK50ZR-AP	0.5		11
600	4.8	STQ2HNK60ZR-AP			11
	8	STQ2NK60ZR-AP	0.4		7.7
	8.5	STQ1HNK60R-AP	0.4		7
	15	STQ1NK60ZR-AP	0.3		4.9
800	16	STQ1NK80ZR-AP*	0.3		5

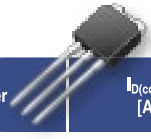
IPAK



V_{DSS} [V]	$R_{DS(on)}$(max) @ 10V [Ω]	Part number	$I_{D(cont)}$ [A]	$R_{DS(on)}$(max) @ 4.5V or 5V [Ω]	Q_g(typ) @ 10V [nC]
-250	2.8	STD3PS25-1	2.5		16
-60	0.2	STD10PF06-1	-10		16
-30	0.028	STD30PF03L-1	-24	0.04	35
24	0.0035	STD150NH02L-1	150	0.0065	69
	0.0048	STD100NH02L-1	60	0.009	62
	0.005	STD95NH02L-1*	80	0.009	43
	0.008	STD70NH02L-1*	60	0.014	32
	0.011	STD55NH2LL-1	40	0.0135	20
30	0.009	STD60NH03L-1	60	0.017	
	0.050	STD17NF03L-1	17	0.060	9.00
55	0.015	STD60NF55L-1	60	0.017	72
60	0.04	STD20NF06L-1	20	0.048	13
	0.10	STD12NF06-1	12		10
	0.10	STD12NF06L-1	12	0.120	12
100	0.4	STD5NE10-1	5		14
200	0.4	STD7NS20-1	7		31
400	1	STD7NK40Z-1	6		20
	1.8	STD5NK40Z-1	4		12

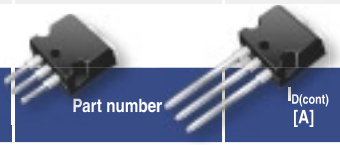
* Coming soon LL = 4.5V drive optimization

IPAK



V_{DSS} [V]	$R_{DS(on)}$(max) @ 10V [Ω]	Part number	$I_{D(cont)}$ [A]	$R_{DS(on)}$(max) @ 4.5V or 5V [Ω]	Q_g(typ) @ 10V [nC]
450	4.5	STD2NC45-1	1.5		7
500	1.5	STD5NK50Z-1	4.4		20
	2.7	STD4NK50Z-1	3		12
	3.3	STD3NK50Z-1	2.3		11
600	1	STD5NM60-1	5		13
	2	STD4NK60Z-1	4		19
	3.6	STD3NK60Z-1	3		12.5
	4.8	STD2HNK60Z-1	2		11
	8	STD2NK60Z-1	1.4		7.7
	8.5	STD1NK60-1	1		7
	15	STD1LNK60Z-1	0.8		4.9
700	7	STD2NK70Z-1*	1.6		11.4
800	4.5	STD3NK80Z-1	2.5		18
	16	STD1NK80Z-1*	1		5
900	6.5	STD2NK90Z-1	2.1		19.5

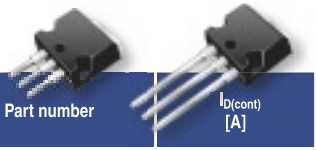
I^2SPAK/I^2PAK



V_{DSS} [V]	$R_{DS(on)}$(max) @ 10V [Ω]	Part number	$I_{D(cont)}$ [A]	$R_{DS(on)}$(max) @ 4.5V or 5V [Ω]	Q_g(typ) @ 10V [nC]
30	0.0032	STB100NF03L-03-1	100	0.0045	160
	0.004	STB80NF03L-04-1	80	0.0055	150
	0.0095	STB70NF03L-1	70	0.018	33
40	0.0037	STB200NF04-1	120		170
	0.0042	STB100NF04L-1	100	0.0065	160
55	0.0065	STB80NF55-06-1	80		140
	0.008	STB80NF55L-08-1	80	0.01	110
	0.08	STB140NF55-1	80		142
75	0.01	STB140NF75-1	140		150
500	0.14	STB25NM50N-1	22		40
	0.25	STB20NM50-1	20		40
	0.27	STB20NK50Z-S$^{\Delta}$	18		95
	0.35	STB12NM50-1	12		28
	0.38	STB14NK50Z-1	14		69
	0.4	STB12NM50FD-1	12		27.5
	0.85	STB9NK50Z-1	9		35
600	0.17	STB25NM60N-1*	20		
	0.29	STB20NM60A-1	20		45
	0.42	STB16NK60Z-S$^{\Delta}$	14		86
	0.45	STB11NM60-1	11		30
	0.45	STB11NM60FD-1	11		28
	0.55	STB13NK60Z-1	13		66
	0.75	STB10NK60Z-1	10		50

* Coming soon LL = 4.5V drive optimization $^{\Delta}$ I^2SPAK Fast diode version in blue characters

I^2SPAK/I^2PAK cont'd



V_{DSS} [V]	$R_{DS(on)}$(max) @ 10V [Ω]	Part number	$I_{D(cont)}$ [A]	$R_{DS(on)}$(max) @ 4.5V or 5V [Ω]	Q_g(typ) @ 10V [nC]
600	0.95	**STB9NK60Z-1**	9		40
	2	**STB4NK60Z-1**	4		19
650	0.5	**STB16NK65Z-S**$^{\Delta}$	13		89
800	0.75	**STB12NK80Z-S**$^{\Delta}$	11		87

TO-220

V_{DSS} [V]	$R_{DS(on)}$(max) @ 10V [Ω]	Part number	$I_{D(cont)}$ [A]	$R_{DS(on)}$(max) @ 4.5V or 5V [Ω]	Q_g(typ) @ 10V [nC]
-60	0.2	**STP12PF06**	-12		10
-55	0.018	**STP80PF55**	-80		190
24	0.0044	**STP130NH02L**	90	0.008	69
30	0.0036	**STP200NF03**	120		113
	0.004	**STP80NF03L**	80		150
	0.004	**STP80NF03L-04**	80		150
	0.0065	**STP90NF03L**	90		62
	0.0095	**STP70NF03L**	70	22.5	33
	0.0095	**STP60NF03L**	60	24	40
	0.022	**STP40NF03L**	40	11	22
	0.05	**STP22NF03L**	22	5	9
33	0.009	**STP80NS04ZB**	80		80
	0.015	**STP60NS04ZB***	80		48
	0.015	**STP62NS04Z**	62		34
40	0.0037	**STP200NF04**	120		170
	0.0046	**STP100NF04**	120		110
	0.0046	**STP120NF04**	120		
55	0.0065	**STP80NF55L-06**	80	0.008	175
	0.0065	**STP80NF55-06**	80		140
	0.008	**STP80NF55-08**	80		115
	0.08	**STP140NF55**	80		142
60	0.008	**STP80NF06**	80		120
	0.014	**STP60NF06L**	60		65
	0.016	**STP60NF06**	60		49
	0.018	**STP55NF06**	55		45
	0.018	**STP55NF06L**	55		50
	0.028	**STP45NF06**	38		43
	0.04	**STP36NF06L**	30		13
	0.04	**STP36NF06**	30		23
	0.07	**STP20NF06**	20		14
	0.07	**STP20NF06L**	20	0.085	25
	0.1	**STP16NF06L**	16		12
	0.1	**STP16NF06**	16		10

* Coming soon $^{\Delta}$ I^2SPAK

TO-220

V_{DSS} [V]	$R_{DS(on)}$(max) @ 10V [Ω]	Part number	$I_{D(cont)}$ [A]	$R_{DS(on)}$(max) @ 4.5V or 5V [Ω]	Q_g(typ) @ 10V [nC]
75	0.008	**STP140NF75**	140		150
	0.011	**STP75NF75**	75		117
100	0.0105	**STP120NF10**	120		172
	0.015	**STP80NF10**	80		135
	0.023	**STP60NF10**	80		104
	0.028	**STP40NF10**	40		60
	0.033	**STP40NF10L**	40	0.036	60
	0.035	**STP35NF10**	40		55
	0.045	**STP30NF10**	35		40
	0.06	**STP24NF10**	26		30
	0.085	**STP22NE10L**	22	0.1	45
	0.13	**STP14NF10**	15		15
120	0.018	**STP80NF12**	80		140
	0.032	**STP40NF12**	40		60
	0.180	**STP14NF12**	14		15
150	0.052	**STP40NS15**	40		100
200	0.045	**STP40N20*** ◊	40		75
	0.125	**STP20N20**◊	18		28
	0.18	**IRF640**	18		55
	0.4	**IRF630**	9		31
	0.4	**STP10NB20**	10		17
250	0.15	**STP22NS25Z**	20		120
	0.28	**STP16NS25**	16		59
	0.45	**STP8NS25**	8		37
300	0.40	**STP12NK30Z**	9		30
	0.90	**STP7NK30Z**	5.7		15
400	0.25	**STP17NK40Z**	15		69
	0.55	**STP11NK40Z**	9		30
	1.0	**STP7NK40Z**	6		20
	1.80	**STP5NK40Z**	4		12
500	0.14	**STP25NM50N***	22		40
	0.25	**STP20NM50FD**	20		38
	0.25	**STP20NM50**	20		40
	0.27	**STP20NK50Z**	18		95
	0.34	**STP15NK50Z**	14		76
	0.35	**STP12NM50**	12		28
	0.38	**STP14NK50Z**	14		69
	0.4	**STP12NM50FD**	12		27.5
	0.52	**STP11NK50Z**	10		49
	0.8	**STP8NM50**	7.5		13
	0.85	**STP9NK50Z**	9		35
	1.2	**STP6NK50Z**	5.6		24.6
	1.5	**STP5NK50Z**	4.4		20
	2.7	**STP4NK50Z**	3		12

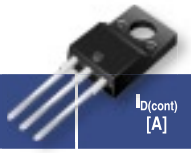
* Coming soon ◊ STripFET technology Fast diode version in blue characters

TO-220 cont'd.

V_{DSS} [V]	$R_{DS(on)}$(max) @ 10V [Ω]	Part number	$I_{D(cont)}$ [A]	$R_{DS(on)}$(max) @ 4.5V or 5V [Ω]	Q_g(typ) @ 10V [nC]
600	0.17	STP25NM60N*	20		
	0.29	STP20NM60A	20		45
	0.29	STP20NM60FD	20		40
	0.29	STP20NM60	20		39
	0.42	STP16NK60Z	114		86
	0.45	STP11NM60	11		30
	0.45	STP11NM60FD	11		28
	0.5	STP14NK60Z	13.5		75
	0.55	STP13NK60Z	13		66
	0.75	STP10NK60Z	10		50
	0.95	STP9NK60Z	9		40
	0.95	STP9NK60ZD	7		41
	1	STP8NM60	8		13
	1.2	STP6NK60Z	6		33
	1.6	STP5NK60Z	5		25
	2	STP4NK60Z	4		19
	3.6	STP3NK60Z	3		12.5
	8	STP2NK60Z	1.4		7.7
650	0.5	STP16NK65Z	13		89
	1.2	STP9NK65Z	7		41
	1.8	STP5NK65Z	5		31
700	0.85	STP10NK70Z	8		60
	1.20	STP9NK70Z	7.5		48
	1.80	STP6NK70Z	4.9		33
800	0.4	STP11NM80	11		40
	0.75	STP12NK80Z	10.5		87
	0.9	STP10NK80Z	9		72
	1.5	STP8NK80Z	6.2		50
	1.8	STP7NK80Z	5.2		40
	2.4	STP5NK80Z	4.3		32.4
	3.5	STP4NK80Z	3		22.5
	4.5	STP3NK80Z	2.5		18
900	1.3	STP9NK90Z	8		72
	2	STP6NK90Z	6		50
	2.5	STP5NK90Z	4.5		41.5
	4.2	STP3HNK90Z	3		26
	4.8	STP3NK90Z	2.8		25
	6.5	STP2NK90Z	2.1		19.5
1000	3.70	STP5NK100Z	3.5		40
1500	7.00	STP4N150* #	4		50

* Coming soon Fast diode version in blue characters # Very high voltage PowerMESH technology

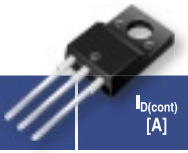
TO-220FP



V_{DSS} [V]	$R_{DS(on)}$(max) @ 10V [Ω]	Part number	$I_{D(cont)}$ [A]	$R_{DS(on)}$(max) @ 4.5V or 5V [Ω]	Q_g(typ) @ 10V [nC]
-60	0.20	**STF12PF06**	-60		16
55	0.0065	**STP80NF55-06FP**	60		140
60	0.016	**STP60NF06FP**	37		49
	0.018	**STP55NF06FP**	32		45
	0.04	**STP36NF06FP**	18		23
	0.07	**STF20NF06L**	20	0.085	25
	0.07	**STF20NF06**	20		14
	0.1	**STP16NF06FP**	16		10
75	0.011	**STP75NF75FP**	40		117
100	0.015	**STP80NF10FP**	80		140
120	0.018	**STP80NF12FP**	80		140
	0.077	**STF24NF12**	24		
	0.180	**STP14NF12FP**	14		15
150	0.100	**STP30NS15LFP**	14	0.112	70
200	0.125	**STF20N20**◊	18		28
	0.18	**IRF640FP**	18		55
	0.4	**IRF630FP**	9		31
250	0.28	**STP16NS25FP**	16		59
300	0.90	**STF7NK30Z**	5.7		15
400	0.25	**STP17NK40ZFP**	15		69
	0.55	**STP11NK40ZFP**	9		30
	1.00	**STP7NK40ZFP**	6		20
	1.80	**STP5NK40ZFP**	4		12
500	0.14	**STF25NM50N***	22		40
	0.25	**STP20NM50FP**	20		40
	0.25	**STF20NM50D**	20		38
	0.34	**STP15NK50ZFP**	14		76
	0.35	**STP12NM50FP**	12		28
	0.38	**STP14NK50ZFP**	14		69
	0.4	**STP12NM50FDFP**	12		27.5
	0.52	**STP11NK50ZFP**	10		49
	0.8	**STP8NM50FP**	7.5		13
	0.85	**STP9NK50ZFP**	9		35
	1.2	**STF6NK50Z**	5.6		24.6
	1.5	**STP5NK50ZFP**	4.4		20
	2.7	**STP4NK50ZFP**	3		12
600	0.17	**STF25NM60N***	20		
	0.29	**STF20NM60D**	20		40
	0.29	**STF20NM60A**	20		45
	0.29	**STP20NM60FP**	20		39

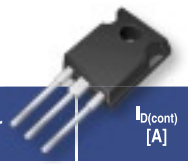
* Coming soon ◊ STripFET technology Fast diode version in blue characters # Very high voltage PowerMESH technology

TO-220FP cont'd



V_{DSS} [V]	$R_{DS(on)}$(max) @ 10V [Ω]	Part number	$I_{D(cont)}$ [A]	$R_{DS(on)}$(max) @ 4.5V or 5V [Ω]	Q_g(typ) @ 10V [nC]
600	0.45	STP11NM60AFP	11		30
	0.45	STP11NM60FDFP	11		28
	0.45	STP11NM60FP	11		30
	0.5	STP14NK60ZFP	13.5		75
	0.55	STP13NK60ZFP	13		66
	0.75	STP10NK60ZFP	10		50
	0.95	STP9NK60ZFP	9		40
	0.95	STF9NK60ZD	7		41
	1	STP8NM60FP	8		13
	1.2	STP6NK60ZFP	6		33
	1.6	STP5NK60ZFP	5		25
	2	STP4NK60ZFP	4		19
	3.6	STP3NK60ZFP	3		12.5
	4.8	STF2HNK60Z	2		11
	8	STF2NK60Z	1.4		7.7
650	0.90	STP9NC65FP	8		44
	1.20	STP9NK65ZFP	7		41
700	0.85	STP10NK70ZFP	8		60
	1.20	STP9NK70ZFP	7.5		48
	1.80	STF6NK70Z	4.9		33
800	0.4	STF11NM80	11		40
	0.9	STP10NK80ZFP	9		72
	1.5	STP8NK80ZFP	6.2		50
	1.8	STP7NK80ZFP	5.2		40
	2.4	STP5NK80ZFP	4.3		32.4
	3.5	STP4NK80ZFP	3		22.5
	4.5	STF3NK80Z	2.5		18
900	1.3	STF9NK90Z	8		72
	2	STP6NK90ZFP	6		50
	2.5	STF5NK90Z	4.5		41.5
	4.2	STF3HNK90Z	3		26
	4.8	STP3NK90ZFP	2.8		25
1000	3.70	STF5NK100Z	3.5		40
1500	7.00	STF4N150* #	4		50

TO-247



V_{DSS} [V]	$R_{DS(on)}$(max) @ 10V [Ω]	Part number	$I_{D(cont)}$ [A]	$R_{DS(on)}$(max) @ 4.5V or 5V [Ω]	Q_g(typ) @ 10V [nC]
30	0.0028	STW200NF03	120		225
55	0.0035	STW240NF55	120		350
	0.006	STW150NF55	120		140

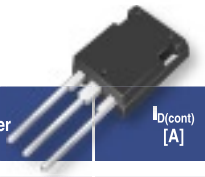
* Coming soon Fast diode version in blue characters # Very high voltage PowerMESH technology

TO-247

V_{DSS} [V]	$R_{DS(on)}$(max) @ 10V [Ω]	Part number	$I_{D(cont)}$ [A]	$R_{DS(on)}$(max) @ 4.5V or 5V [Ω]	Q_g(typ) @ 10V [nC]
55	0.008	**STW80NF55-08**	80		115
75	0.0044	**STW220NF75**	120		360
200	0.045	**STW40N20*** ◊	40		75
250	0.045	**STW52NK25Z**	52		200
300	0.060	**STW54NK30Z***	54		190
500	0.1	**STW45NM50**	45		87
	0.1	**STW45NM50FD**	45		92
	0.12	**STW26NM50**	30		76
	0.13	**STW29NK50Z**	31		190
	0.14	**STW25NM50N***	22		40
	0.15	**STW29NK50ZD***	29		180
	0.25	**STW20NM50**	20		40
	0.25	**STW20NM50FD**	20		38
	0.27	**STW20NK50Z**	18		95
	0.34	**STW15NK50Z**	14		76
	0.35	**STW14NM50**	12		28
	0.38	**STW14NK50Z**	14		69
	0.4	**STW14NM50FD**	14		27.5
600	0.11	**STW45NM60**	45		96
	0.135	**STW26NM60**	30		73
	0.145	**STW30NM60D**	30		73
	0.185	**STW28NK60Z**	27		189
	0.29	**STW20NM60**	20		96
	0.29	**STW20NM60FD**	20		40
	0.36	**STW18NK60Z**	16		106
	0.42	**STW16NK60Z**	14		86
	0.5	**STW14NK60Z**	13.5		75
	0.55	**STW13NK60Z**	13		66
	0.75	**STW10NK60Z**	10		50
700	0.3	**STW20NK70Z**	19		220
	1.2	**STW9NK70Z**	7.5		48
800	0.38	**STW18NK80Z**	17		220
	0.4	**STW11NM80**	11		40
	0.65	**STW13NK80Z**	12		120
	0.75	**STW12NK80Z**	10.5		87
	0.9	**STW10NK80Z**	9		72
	1.5	**STW8NK80Z**	6.2		50
900	0.55	**STW15NK90Z**	14.5		220
	0.88	**STW12NK90Z**	11		120
	0.98	**STW11NK90Z***	9.2		80
	1.3	**STW9NK90Z**	8		72
	2	**STW7NK90Z**	6		50
1000	0.7	**STW13NK100Z**	12		220
	1.38	**STW11NK100Z**	10.5		120
	4.4	**STW5NB100**	4.8		32
1500	7	**STW4N150*** #	4		50

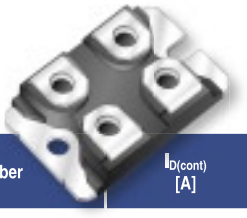
* Coming soon ◊ STripFET technology Fast diode version in blue characters # Very high voltage PowerMESH technology

Max247



V_{DSS} [V]	$R_{DS(on)}$(max) @ 10V [Ω]	Part number	$I_{D(cont)}$ [A]	$R_{DS(on)}$(max) @ 4.5V or 5V [Ω]	Q_g(typ) @ 10V [nC]
100	0.01	**STY140NS10**	140		450
200	0.024	**STY100NS20FD**	100		360
300	0.045	**STY60NK30Z**	60		220
500	0.05	**STY60NM50**	60		190
600	0.055	**STY60NM60**	60		178
900	0.3	**STY30NK90Z**	26		390

ISOTOP



V_{DSS} [V]	$R_{DS(on)}$(max) @ 10V [Ω]	Part number	$I_{D(cont)}$ [A]	$R_{DS(on)}$(max) @ 4.5V or 5V [Ω]	Q_g(typ) @ 10V [nC]
100	0.0055	**STE250NS10**	200		900
	0.0060	**STE180NE10**	180		142
200	0.024	**STE110NS20FD**	110		360
500	0.05	**STE70NM50**	70		190
	0.08	**STE53NC50**	53		310
	0.1	**STE48NM50**	48		87
600	0.055	**STE70NM60**	70		178
	0.135	**STE40NC60**	40		
800	0.13	**STE45NK80ZD**	45		558
900	0.17	**STE40NK90ZD**	40		700
	0.3	**STE30NK90Z**	30		390

* Coming soon Fast diode version in blue characters

MOSFETs part numbering scheme

ST P 70 N F 03 L

Package type

C	TSSOP8	Q	TO-92
T	SOT23-6L	D...-1	IPAK
N	SOT23-3L	B...-1	I^2PAK
L	PowerFLAT	B...-S	I^2SPAK
K	PolarPak	P	TO-220
SJ	PowerSO-8	P...FP	TO-220FP
S	SO-8	F	TO-220FP for new products
D...T4	DPAK (Tape & Reel)		
B...T4	D^2PAK (Tape & Reel)	W	TO-247
Z	P^2PAK	Y	Max247
V	PowerSO-10	E	ISOTOP

Indicative current range

Channel polarity

N	N-Channel	DN or DP	Dual N-Ch or Dual P-Ch
P	P-Channel	C	Complementary pair

Technology (optional)

E	EHD1 (STripFET 1st gen)	B	PowerMESH I
F	EHD2 (STripFET 2nd gen)	C	PowerMESH II
H	EHD3 (STripFET 3rd gen)	C	PowerMESH III
HS	EHD3 + MONOLITHIC Schottky diode	K	SuperMESH
FS	EHD2 + Schottky diode	M	MDmesh
S	PowerMESH medium voltage	M...N	MDesh II

Breakdown voltage divided by 10

With the exception of:

- 55V and 75V
- TSSOP8, SOT23-6L, SO-8

Special features

L	Logic level, 10V drive optimized	FD	Fast diode 'D' for new products
LL	Logic level, 4.5V drive optimized	T	Temperature sensing
V	Super logic level (2.5 ÷ 2.7V drive)	Z	Back-to-back zener diode

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