

MOSFETs & IGBTs

Progress in Power Switching



Selection Guide

STMicroelectronics
More Intelligent Solutions



MDmesh 500V Product Range

P / N	V _{DS}	R _{DS(on)} (max) @ 10V	R _{DS(on)} •Q _g (typ)	I _D (cont)	Package	Q _g (Typ) @ 10V	T _{rr} (Typ) @ 25°C	Q _{rr} (Typ) @ 25°C	I _{rrm} (Typ) @ 25°C	dv/dt
	[V]	[Ω]	[Ω • nC]	[A]		[nC]	[μs]	[nC]	[A]	[V/ns]
STE70NM50	500	0.05	8.6	70	ISOTOP	190	532	9.9	37	15
STY60NM50	500	0.05	8.6	60	Max247	190	532	9.9	37	15
STE48NM50	500	0.1	7.0	48	ISOTOP	87	520	7.8	30	15
STW45NM50	500	0.1	7.0	45	TO-247	87	520	7.8	30	15
STW45NM50FD	500	0.11	8.3	45	TO-247	92	245	2.2	18	20
STE70NM50FD	500	0.12	8.6	70	ISOTOP	190	250	2.4	11.5	20
STW26NM50	500	0.12	7.6	30	TO-247	76	400	5.5	27.8	15
STW26NM50FD	500	0.12	8.6	30	TO-247	190	250	2.4	11.5	20
STY60NM50FD	500	0.12	8.6	60	Max247	190	250	2.4	11.5	20
STB20NM50-1	500	0.25	8.8	20	I ² PAK	40	350	4.6	26	15
STB20NM50FDT4	500	0.25	8.4	20	D²PAK	38	175	1.2	14	20
STB20NM50T4	500	0.25	8.8	20	D ² PAK	40	350	4.6	26	15
STP20NM50	500	0.25	8.8	20	TO-220	40	350	4.6	26	15
STP20NM50FD	500	0.25	8.4	20	TO-220	38	175	1.2	14	20
STP20NM50FP	500	0.25	8.8	20	TO-220FP	40	350	4.6	26	15
STW20NM50	500	0.25	8.8	20	TO-247	40	350	4.6	26	15
STW20NM50FD	500	0.25	8.4	20	TO-247	38	175	1.2	14	20
STB12NM50-1	500	0.35	8.4	12	I ² PAK	28	350	5.25	30	15
STB12NM50T4	500	0.35	8.4	12	D ² PAK	28	350	5.25	30	15
STP12NM50	500	0.35	8.4	12	TO-220	28	350	5.25	30	15
STP12NM50FP	500	0.35	8.4	12	TO-220FP	28	350	5.25	30	15
STW14NM50	500	0.35	8.4	12	TO-247	28	350	5.25	30	15
STB12NM50FD-1	500	0.4	8.8	12	I²PAK	27.5	116	0.46	8	20
STB12NM50FDT4	500	0.4	8.8	12	D²PAK	27.5	116	0.46	8	20
STP12NM50FD	500	0.4	8.8	12	TO-220	27.5	116	0.46	8	20
STP12NM50FDFP	500	0.4	8.8	12	TO-220FP	27.5	116	0.46	8	20
STW14NM50FD	500	0.4	8.8	14	TO-247	27.5	116	0.46	8	20
STD5NM50-1	500	0.8	9.1	5	IPAK	13	270	1.6	12	15
STD5NM50T4	500	0.8	9.1	5	DPAK	13	270	1.6	12	15
STP8NM50	500	0.8	9.1	7.5	TO-220	13	270	1.6	12	15
STP8NM50FP	500	0.8	9.1	7.5	TO-220FP	13	270	1.6	12	15
STD3NM50-1	500	3	13.8	3	IPAK	5.5	210	0.79	7.5	15
STD3NM50T4	500	3	13.8	3	DPAK	5.5	210	0.79	7.5	15
STSJ3NM50	500	3	13.8	3	PowerSO-8	5.5	210	0.79	7.5	15

Fast Diode version in blue characters

MDmesh 600V Product Range

P / N	V _{DSS} [V]	R _{DS(on)} (max) @ 10V [Ω]	R _{DS(on)} *Q _g (typ) [Ω * nC]	I _{D(cont)} [A]	Package	Q _g (Typ) @ 10V [nC]	T _{rr} (Typ) @ 25°C [μs]	Q _{rr} (Typ) @ 25°C [μC]	I _{rm} (Typ) @ 25°C [A]	dv/dt [V/ns]
STE70NM60*	600	0.06	5.2	70	ISOTOP	104	-	-	-	15
STY60NM60*	600	0.06	5.2	60	Max247	104	-	-	-	15
STE48NM60	600	0.11	8.6	48	ISOTOP	96	508	10	40	15
STW45NM60	600	0.11	8.6	45	TO-247	96	508	10	40	15
STW26NM60	600	0.14	9.1	30	TO-247	73	450	7	30.5	15
STB20NM60-1	600	0.29	9.9	20	I ² PAK	39.5	390	5	25	15
STB20NM60T4	600	0.29	9.9	20	D ² PAK	39.5	390	5	25	15
STP20NM60	600	0.29	9.9	20	TO-220	39.5	390	5	25	15
STP20NM60FP	600	0.29	9.9	20	TO-220FP	39.5	390	5	25	15
STW20NM60	600	0.29	9.9	20	TO-247	39.5	390	5	25	15
STB11NM60-1	600	0.45	12.4	11	I ² PAK	31	370	3.7	20	15
STB11NM60T4	600	0.45	12.4	11	D ² PAK	31	370	3.7	20	15
STP11NM60	600	0.45	12.4	11	TO-220	31	370	3.7	20	15
STP11NM60FP	600	0.45	12.4	11	TO-220FP	31	370	3.7	20	15
STP11NM60FD	600	0.5	11.2	11	TO-220	28	194	1.1	11.5	20
STP11NM60DFDP	600	0.5	11.2	11	TO-220FP	28	194	1.1	11.5	20
STD5NM60-1	600	1	12.2	5	I ² PAK	13.5	300	1.8	13	15
STD5NM60T4	600	1	12.2	5	DPAK	13.5	300	1.8	13	15
STP8NM60	600	1	12.2	8	TO-220	13.5	300	1.8	13	15
STD3NM60-1	600	1.5	13.0	3	I ² PAK	10	224	1	9	15
STD3NM60T4	600	1.5	13.0	3	DPAK	10	224	1	9	15
STP4NM60	600	1.5	13.0	4	TO-220	10	224	1	9	15
STP8NM60FP	600	2	12.2	8	TO-220FP	13.5	300	1.8	13	15
STD2NM60-1	600	3.2	16.8	2	I ² PAK	6	516	0.5	2	15
STD2NM60T4	600	3.2	16.8	2	DPAK	6	516	0.5	2	15
STSJ2NM60	600	3.2	16.8	3	PowerSO-8	6	516	0.5	2	15

* Coming soon

Fast Diode version in blue characters

MDmesh 800V Product Range

P / N	V _{DSS} [V]	R _{DS(on)} (max) @ 10V [Ω]	R _{DS(on)} *Q _g (typ) [Ω * nC]	I _{D(cont)} [A]	Package	Q _g (Typ) @ 10V [nC]
STB11NM80T4*	800	0.4	14	11	D ² PAK	40
STP11NM80*	800	0.4	14	11	TO-220	40

* Coming soon

TSSOP8

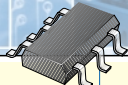


V_{DSS} [V]	$R_{DS(on)}(max)$ @ 4.5V [Ω]	P / N	$I_{D(cont)}$ [A]	$R_{DS(on)}(max)$ @ 2.7V [Ω]	Q_g (Typ) @ 4.5V [nC]
20	0.04	STC5NF20V*	5	0.045	8.5
30	0.025	STC6NF30V*	6	0.03 @ 2.5V	11

V = Super Logic Level

* Two dice in the same package; electrical parameters refer to a single die

SOT23-6L

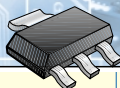


V_{DSS} [V]	$R_{DS(on)}(max)$ @ 4.5V [Ω]	P / N	$I_{D(cont)}$ [A]	$R_{DS(on)}(max)$ @ 2.7V [Ω]	Q_g (Typ) @ 4.5V [nC]
-20	0.11	STT4PF20V	-4	0.135	6.2
	0.2	STT3PF20V	-3	0.25	3.8
20	0.04	STT5NF20V	5	0.045	8.5

V_{DSS} [V]	$R_{DS(on)}(max)$ @ 10V [Ω]	P / N	$I_{D(cont)}$ [A]	$R_{DS(on)}(max)$ @ 4.5V [Ω]	Q_g (Typ) @ 10V [nC]
-60	0.25	STT2PF60L	-2	0.3	10
-30	0.165	STT3PF30L	-3	0.2	11
	0.05	STT5NF30L	5	0.06	12
30	0.065	STT4NF30L	4	0.09	16
100	0.8	STT1NF100	1		4

V = Super Logic Level

SOT-223



V_{DSS} [V]	$R_{DS(on)}(max)$ @ 10V [Ω]	P / N	$I_{D(cont)}$ [A]	$R_{DS(on)}(max)$ @ 4.5V [Ω]	Q_g (Typ) @ 10V [nC]
-60	0.2	STN3PF06	-2.5		16
30	0.05	STN4NF03L	4	0.06	12
	0.1	STN3NF06	3		10
60	0.1	STN3NF06L	3	0.12	12
	0.15	STN2NF06	2		11
	0.06	STN7NF10	7		30
	0.14	STN3NF10	3		15
	0.26	STN2NF10	2		10
	0.4	STN2NE10	2		14
	0.8	STN1NF10	1		4
200	1.5	STN1N20	1		11
600	8	STN1HNC60	0.4		8.5
	15	STN1NC60	0.3		7.3
800	20	STN1NB80	0.2		10

PowerFLAT



V_{DSS} [V]	$R_{DS(on)}(max)$ @ 10V [Ω]	P / N	$I_{D(cont)}$ [A]	$R_{DS(on)}(max)$ @ 4.5V [Ω]	Q_g (Typ) @ 10V [nC]
30	0.0065	STL28NF3LL	28	0.0095	70
	0.008	STL35NF3LL	35	0.015	80
	0.01	STL30NF3LL	30	0.013	54
100	0.03	STL35NF10	35		60
	0.065	STL22NF10	22		30
300	0.4	STL9NK30Z	9		30
550	1.4	STL6NK55Z	0.86		25
650	1.8	STL5NK65Z	5		31

LL = 4.5V Drive Optimization

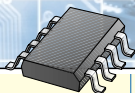
PowerSO-8



V_{DSS} [V]	$R_{DS(on)}(max)$ @ 10V [Ω]	P / N	$I_{D(cont)}$ [A]	$R_{DS(on)}(max)$ @ 4.5V [Ω]	Q_g (Typ) @ 10V [nC]
30	0.0105	STSJ25NF3LL	25	0.013	40

LL = 4.5V Drive Optimization

S0-8



V_{DSS} [V]	$R_{DS(on)}(max)$ @ 4.5V [Ω]	P / N	$I_{D(cont)}$ [A]	$R_{DS(on)}(max)$ @ 2.7V [Ω]	Q_g (Typ) @ 4.5V [nC]
-20	0.11	STS3DPF20V	-3	0.135	6.2
	0.11	STS4PF20V	-4	0.135	6.2
	0.2	STS2DPF20V	-2	0.25	3.8
	0.2	STS2DPFS20V	-2	0.25	3.8
20	0.04	STS5DNF20V	5	0.045	8.5
	0.04	STS6NF20V	6	0.045	8.5
30	0.03	STS6DNF30V	6	0.038 @ 4.5V	11

V_{DSS} [V]	$R_{DS(on)}(max)$ @ 10V [Ω]	P / N	$I_{D(cont)}$ [A]	$R_{DS(on)}(max)$ @ 4.5V [Ω]	Q_g (Typ) @ 10V [nC]
-250	2.8	STS1C1S250	0.6		16
250	1.4		0.8		15
-30	0.08	STS7C4F30L	-7	0.1	30
30	0.022		4	0.026	30

V_{DSS} [V]	$R_{DS(on)}(max)$ @ 10V [Ω]	P / N	$I_{D(cont)}$ [A]	$R_{DS(on)}(max)$ @ 4.5V [Ω]	Q_g (Typ) @ 10V [nC]
-45	0.1	STS3DPFS45	-3		24.5
-30	0.021	STS7PF30L	-7	0.028	60
	0.03	STS6PF30L	-6	0.04	35
	0.08	STS4DPF30L	-4	0.1	30
	0.08	STS5PF30L	-5	0.1	30
	0.09	STS3DPFS30	-3		23
	0.165	STS3DPF30L	-3	0.2	11
-20	0.07	STS4DPF20L	-4	0.085	30
30	0.0035	STS25NH3LL	25	0.005	68
	0.0055	STS17NF3LL	17	0.007	55
	0.009	STS12NF30L	12	0.011	66
	0.0105	STS11NF30L	11	0.019	33
	0.019	STS9NF3LL	9	0.022	22
	0.02	STS8DNF3LL	8	0.023	22
	0.02	STS9NF30L	9	0.038	22
	0.05	STS4DNF30L	4	0.06	12
	0.05	STS4DNFS30L	4	0.06	12
	0.065	STS3DNF30L	3.5	0.09	16
	0.11	STS2DNF30L	2	0.15	4.5
	0.0195	STS7NF60L	7.5	0.0215	50
60	0.055	STS4DNF60L	4	0.065	32
	0.055	STS5NF60L	5	0.065	32
	0.08	STS3DNE60L	3	0.1	26
	0.23	STS2DNE60	2		12
	0.06	STS4NF100	4		30
100	0.25	STS2NF100	2		10
200	1.5	STS1NS20	1		11
450	4.5	STS1DNC45	0.4		7
600	9	STS1HNK60*	0.35		7
	15	STS1NK60Z	0.3		5

D = Dual; DPFS = P-Channel + Schottky Diode; LL = 4.5V Drive Optimization; C = Complementary Pair

V = Super Logic Level

* Coming soon



V _{DSS} [V]	R _{DS(on)} (max) @ 10V [Ω]	P / N	I _D (cont) [A]	R _{DS(on)} (max) @ 4.5V [Ω]	Q _g (Typ) @ 10V [nC]
-250	2.8	STD3PS25T4	2.7		16
-60	0.2	STD10PF06T4	-10		16
-30	0.028	STD30PF03LT4	-24	0.04	35
20	0.0048	STD100NH02LT4	60		62
	0.006	STD90NH02LT4	60		47.5
	0.0135	STD38NH02LT4	38	0.017	18
30	0.0095	STD60NF3LLT4	60	0.0105	54
	0.011	STD40NF03LT4	40	0.0195	33
	0.011	STD40NF3LLT4	40	0.0135	40
	0.0145	STD38NF03LT4	38	0.0215	35
	0.0195	STD35NF3LLT4	35	0.0215	22
	0.05	STD17NF03LT4	17	0.06	12
	0.015	STD60NF55LT4	60	0.017	72
60	0.016	STD60NF06T4	60		49
	0.0195	STD35NF06LT4	35	0.0215	50
	0.02	STD35NF06T4	35		45
	0.025	STD40NF06LZT4	40	0.03	30
	0.028	STD30NF06LT4	28	0.03	42
	0.028	STD30NF06T4	28		43
	0.04	STD20NE06T4	20		50
	0.05	STD19NE06LT4	19	0.06	36
	0.05	STD19NE06T4	19		35
	0.07	STD16NE06LT4	16	0.085	26
	0.085	STD16NE06T4	16		25
	0.1	STD12NF06LT4	12	0.12	12
	0.1	STD12NF06T4	12		10
100	0.035	STD25NF10LT4	25	0.04	70
	0.038	STD25NF10T4	25		55
	0.045	STD20NF10T4	20		40
	0.065	STD15NF10T4	15		30
	0.13	STD10NF10T4	10		15
	0.25	STD6NF10T4	6		10
	0.4	STD5NE10LT4	5	0.45	16
200	0.4	STD7NS20T4	7		31
	0.8	STD5N20T4	5		19
	1.5	STD4N20T4	4		11
250	0.45	STD8NS25T4	8		37
	1.1	STD4NS25T4	4		19
	2	STD2NB25T4	2		10.3
400	1	STD7NK40ZT4	6		20
	1.8	STD5NK40ZT4	4		12
500	1.5	STD5NK50ZT4	5		20
	2.7	STD4NK50ZT4	3		12.5
	4	STD2NC50T4	2.2		10
600	1.6	STD5NK60ZT4	5		25
	2	STD4NK60ZT4	4		19
	3.6	STD3NK60ZT4	3		12.5
	5	STD1HNC60T4	1.3		11.3
	8	STD1NC60T4	1.4		8.5
	15	STD1LNC60ZT4	1		7.5
700	15	STD1LNK60ZT4	0.78		5
	4.7	STD2NC70ZT4	2.3		17

LL = 4.5V Drive Optimization

DPAK

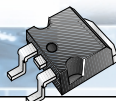


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V_{DSS} [V]	$R_{DS(on)}(max)$ @ 10V [Ω]	P / N	$I_D(Cont)$ [A]	$R_{DS(on)}(max)$ @ 4.5V [Ω]	Q_g (Typ) @ 10V [nC]
700	8.5	STD1NC70ZT4	1.4		8
800	3.5	STD4NK80ZT4	3		25
	5.5	STD2NB80T4	1.9		17
	20	STD1NB80T4	1		10
900	4.8	STD3NK90ZT4*	2.8		25

* Coming soon

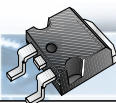
D²PAK



V_{DSS} [V]	$R_{DS(on)}(max)$ @ 10V [Ω]	P / N	$I_D(Cont)$ [A]	$R_{DS(on)}(max)$ @ 4.5V [Ω]	Q_g (Typ) @ 10V [nC]
-55	0.018	STB80PF55T4	-80		190
20	0.0032	STB210NF02T4	120		125
	0.0044	STB130NH02LT4	90		69
	0.006	STB100NH02LT4	80		47.5
	0.009	STB70NF02LT4	70	0.015	36
	0.0135	STB50NH02LT4	50	0.017	18
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	STB90NF3LLT4	80	0.009	80
	0.0065	STB90NF03LT4	90	0.012	62
	0.007	STB95NF03T4	80		60
	0.008	STB85NF3LLT4	85	0.0095	54
	0.0095	STB70NF03LT4	70	0.018	33
	0.0095	STB70NF3LLT4	70	0.012	40
	0.0095	STB70NFS03LT4	70	0.018	33
	0.013	STB55NF03LT4	55	0.021	35
	0.018	STB45NF3LLT4	45	0.02	22
	0.022	STB40NF03LT4	40	0.035	31
40	0.0042	STB100NF04LT4	100	0.0065	160
	0.0043	STB190NF04T4	120		130
	0.0046	STB100NF04T4	120		110
55	0.006	STB150NF55T4	120		140
	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
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	STB45NF06LT4	38	0.03	42
75	0.008	STB140NF75T4	140		150
	0.011	STB75NF75LT4	75	0.013	150
	0.011	STB75NF75T4	75		117
100	0.015	STB80NF10T4	80		140
	0.028	STB40NF10T4	40		60

LL = 4.5V Drive Optimization

D²PAK

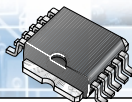


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V_{DSS} [V]	$R_{DS(on)}(max)$ @ 10V [Ω]	P / N	$I_D(cont)$ [A]	$R_{DS(on)}(max)$ @ 4.5V [Ω]	Q_g (Typ) @ 10V [nC]
100	0.033	STB40NF10LT4	40	0.036	60
	0.035	STB35NF10T4	35		55
	0.045	STB30NF10T4	30		40
	0.06	STB24NF10T4	24		30
	0.085	STB22NE10LT4	22		45
	0.13	STB14NF10T4	14		15
150	0.052	STB40NS15T4	40		100
200	0.18	STB19NB20T4	19		29
	0.4	STB10NB20T4	10		17
250	0.15	STB22NS25ZT4	22		120
	0.28	STB16NS25T4	16		59
400	0.55	STB11NK40ZT4	9		30
500	0.38	STB14NK50ZT4	14		69
	0.85	STB9NK50ZT4	9		35
600	0.5	STB14NK60ZT4	12		75
	0.55	STB13NK60ZT4	13		66
	0.75	STB10NK60ZT4	10		50
	0.95	STB9NK60ZT4	9		40
	1.2	STB6NK60ZT4	6		33
700	1.2	STB9NK70ZT4	7.5		48
	1.38	STB7NC70ZT4	6		47
	2	STB5NC70ZT4	4.6		27
800	0.75	STB12NK80ZT4*	10.5		87
	1.8	STB7NK80ZT4	5.2		40

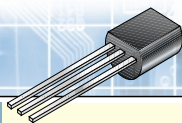
* Coming soon

PowerSO-10



V_{DSS} [V]	$R_{DS(on)}(max)$ @ 10V [Ω]	P / N	$I_D(cont)$ [A]	$R_{DS(on)}(max)$ @ 4.5V [Ω]	Q_g (Typ) @ 10V [nC]
20	0.0025	STV160NF02LT4	160	0.006	115
	0.0027	STV160NF02LAT4	160	0.0064	130
	0.0028	STV160NF03LT4	160	0.0067	103
30	0.003	STV160NF03LAT4	160	0.007	123

T0-92

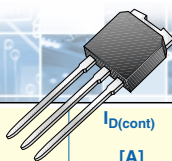


V_{DS} [V]	$R_{DS(on)}$ (max) @ 10V [Ω]	P / N	$I_{D(cont)}$ [A]	$R_{DS(on)}$ (max) @ 4.5V [Ω]	Q_g (Typ) @ 10V [nC]
60	0.12	STQ2NF06L	2	0.14	11
100	0.4	STQ1NE10L	1	0.45	16
450	4.5	STQ1NC45R	0.5		7
600	9	STQ1HNK60R*	0.35		7
	15	STQ1NK60ZR*	0.3		5

* Coming soon

Note: Add the suffix "-AP" for lead-forming and AMMOPAK

IPAK

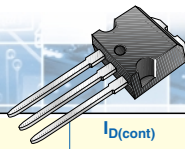


V_{DS} [V]	$R_{DS(on)}$ (max) @ 10V [Ω]	P / N	$I_{D(cont)}$ [A]	$R_{DS(on)}$ (max) @ 4.5V [Ω]	Q_g (Typ) @ 10V [nC]
-250	2.8	STD3PS25-1	2.7		16
-30	0.028	STD30PF03L-1	-24	0.04	35
20	0.0048	STD100NH02L-1	60		62
	0.006	STD90NH02L-1	60		47.5
	0.0135	STD38NH02L-1	38	0.017	18
	0.0095	STD60NF3LL-1	60	0.0105	54
30	0.0195	STD35NF3LL-1	35	0.0215	22
	0.05	STD17NF03L-1	17	0.06	12
55	0.015	STD60NF55L-1	60	0.017	72
	0.05	STD19NE06-1	19		35
	0.05	STD19NE06L-1	19	0.06	36
60	0.085	STD16NE06-1	16		25
	0.1	STD12NF06-1	12		10
	0.1	STD12NF06L-1	12	0.12	12
100	0.045	STD20NF10-1	20		40
	0.4	STD5NE10-1	5		14
200	0.4	STD7NS20-1	7		31
	0.8	STD5N20-1	5		19
	1.5	STD4N20-1	4		11
250	0.45	STD8NS25-1	8		37
	1.1	STD4NS25-1	4		19
	2	STD2NB25-1	2		10.3
400	1	STD7NK40Z-1	5.4		20
	1.8	STD5NK40Z-1	4		12
450	4.5	STD2NC45-1	1.5		7
500	1.5	STD5NK50Z-1	5		20
	2.7	STD4NK50Z-1	3		12
	4	STD2NC50-1	2.2		10
600	2	STD4NK60Z-1	4		19
	3.6	STD3NK60Z-1	3		12.5
	5	STD1HNC60-1	1.3		11.3
	8	STD1NC60-1	1.4		8.5
	15	STD1LNK60Z-1	0.7		5
700	4.7	STD2NC70Z-1	2.3		17
	8.5	STD1NC70Z-1	1.4		8
800	5.5	STD2NB80-1	1.9		17
	20	STD1NB80-1	1		10
900	4.8	STD3NK90Z-1*	2.8		25

LL = 4.5V Drive Optimization

* Coming soon

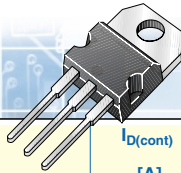
I²PAK



V _{DSS} [V]	R _{DS(on)} (max) @ 10V [Ω]	P / N	I _D (cont) [A]	R _{DS(on)} (max) @ 4.5V [Ω]	Q _g (Typ) @ 10V [nC]
30	0.0032	STB100NF03L-03-1	100	0.0045	160
	0.0036	STB200NF03-1	120		113
	0.004	STB80NF03L-04-1	80	0.0055	150
	0.008	STB85NF3LL-1	85	0.0095	54
40	0.0042	STB100NF04L-1	100	0.0065	160
	0.0046	STB100NF04-1	120		110
	0.008	STB80NF55-08-1	80		115
55	0.008	STB80NF55L-08-1	80	0.01	110
60	0.016	STB60NF06-1	60		49
75	0.008	STB140NF75-1	140		150
500	0.38	STB14NK50Z-1	14		69
	0.5	STB14NK60Z-1	14		75
	0.55	STB13NK60Z-1	13		66
	0.75	STB10NK60Z-1	10		50
	0.95	STB9NK60Z-1	9		40
	1.2	STB6NK60Z-1	6		33
	1.2	STB9NK70Z-1	7.5		48
700	1.38	STB7NC70Z-1	6		47
	2	STB5NC70Z-1	4.6		27
800	1.8	STB7NK80Z-1	5.2		40

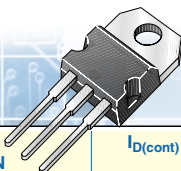
LL = 4.5V Drive Optimization

T0-220



V _{DSS} [V]	R _{DS(on)} (max) @ 10V [Ω]	P / N	I _D (cont) [A]	R _{DS(on)} (max) @ 4.5V [Ω]	Q _g (Typ) @ 10V [nC]
-60	0.2	STP12PF06	-12		16
-55	0.018	STP80PF55	-80		190
20	0.0032	STP210NF02	120		125
	0.0036	STP200NF03	120		113
	0.004	STP80NF03L-04	80	0.0055	150
	0.0065	STP90NF03L	90	0.012	62
	0.008	STP85NF3LL	85	0.0095	54
	0.0095	STP70NF03L	70	0.018	33
	0.013	STP55NF03L	55	0.021	35
	0.018	STP45NF3LL	45	0.02	22
	0.022	STP40NF03L	40	0.035	31
	0.05	STP22NF03L	22	0.06	12
	0.008	STP80NS04Z	80		
	0.015	STP60NS04Z	60		70
	0.0043	STP190NF04	120		130
	0.0046	STP100NF04	120		110
40	0.009	STP80NS04Z	80		105
	0.015	STP60NS04Z	60		70
	0.006	STP150NF55	120		140
	0.0065	STP80NF55-06	80		140
	0.0065	STP80NF55L-06	80	0.008	175
55	0.008	STP80NF55-08	80		115
	0.008	STP80NF55L-08	80	0.01	110

LL = 4.5V Drive Optimization



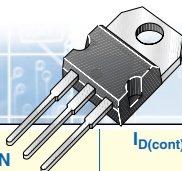
V _{DSS} [V]	R _{DS(on)} (max) @ 10V [Ω]	P / N	I _D (cont) [A]	R _{DS(on)} (max) @ 4.5V [Ω]	Q _g (Typ) @ 10V [nC]
60	0.01	STP80NE06-10	80	0.016	140
	0.014	STP60NF06L	60		65
	0.016	STP60NF06	60		49
	0.018	STP55NF06	55	0.02	45
	0.018	STP55NF06L	55		50
	0.028	STP45NF06	38		43
	0.028	STP45NF06L	38	0.03	42
	0.04	STP36NE06	36		50
	0.05	STP30NE06	30		35
	0.05	STP30NE06L	30	0.06	36
	0.07	STP20NE06L	20		26
	0.08	STP20NE06	20		25
75	0.1	STP16NF06	16	0.12	10
	0.1	STP16NF06L	16		12
	0.008	STP140NF75	140		
	0.011	STP75NF75	75	0.013	117
100	0.011	STP75NF75L	75		150
	0.015	STP80NF10	80	0.036	140
	0.022	STP60NE10	60		142
	0.028	STP40NF10	40		60
	0.033	STP40NF10L	40		60
	0.035	STP35NF10	35		55
	0.045	STP30NF10	30	0.1	40
	0.06	STP24NF10	24		30
	0.085	STP22NE10L	22		45
	0.13	STP14NF10	14		15
120	0.18	STP14NF12	14		15
150	0.052	STP40NS15	40		100
200	0.18	IRF640	18		55
	0.18	IRF640M ^Δ	18		55
	0.18	STP19NB20	19		29
	0.4	IRF630	9		31
	0.4	IRF630M ^Δ	9		31
250	0.4	STP10NB20	10		17
	0.15	STP22NS25Z	20		120
	0.28	STP16NS25	16		59
400	0.45	STP8NS25	8		37
	0.25	STP17NK40Z	15		69
	0.55	STP11NK40Z	9		30
	1	STP7NK40Z	6		20
500	1.8	STP5NK40Z	4		12
	0.27	STP20NK50Z*	18		95
	0.34	STP15NK50Z	14		90
	0.38	STP14NK50Z	14		69
	0.52	STP11NK50Z	10		49
	0.85	STP9NK50Z	9		35
	1.5	STP5NK50Z	4.4		20
600	2.7	STP4NK50Z	3		12.5
	4	STP3NC50	2.8		10
	0.5	STP14NK60Z	14		75
	0.55	STP13NK60Z	13		66
	0.75	STP10NK60Z	10		50
	0.95	STP9NK60ZFD	6.4		41
	0.95	STP9NK60Z	9		40
	1.2	STP6NK60Z	6		33
	1.6	STP5NK60Z	5		25
	2	STP4NK60Z	4		19
	3.6	STP3NK60Z	3		12.5
	5	STP2HNC60	2.2		11.3
	8	STP2NC60	1.9		8.5

Δ Application specific for monitors

* Coming soon

Fast Diode version in blue characters

TO-220

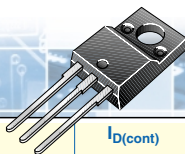


Cont d.

V_{DS} [V]	$R_{DS(on)}$ (max) @ 10V [Ω]	P / N	$I_{D(cont)}$ [A]	$R_{DS(on)}$ (max) @ 4.5V [Ω]	Q_g (Typ) @ 10V [nC]
650	1.2	STP9NK65Z	7		41
	1.8	STP5NK65Z	5		31
700	0.85	STP10NK70Z	8		60
	1.2	STP9NK70Z	7.5		48
	1.38	STP7NC70Z	6		47
	2	STP5NC70Z	4.6		27
	4.7	STP3NC70Z	2.5		17
	8.5	STP2NC70Z	1.4		8
800	0.75	STP12NK80Z*	10.5		87
	0.9	STP10NK80Z	9		72
	1.5	STP8NK80Z	7		50
	1.8	STP7NK80Z	5.2		40
	2.4	STP5NK80Z	4.3		32.4
	3.5	STP4NK80Z	3		25
900	5.5	STP3NB80	2.6		17
	2.0	STP6NK90Z*	6		50
	2.5	STP5NC90Z	4.6		40
	3.5	STP3NC90Z	3.5		27
	4.8	STP3NK90Z*	2.8		25
1000	2.7	STP5NB100	5		39
	4.4	STP4NB100	3.8		32
	6	STP3NB100	3		22

* Coming soon

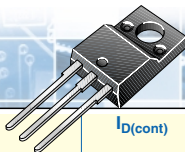
TO-220FP



V_{DS} [V]	$R_{DS(on)}$ (max) @ 10V [Ω]	P / N	$I_{D(cont)}$ [A]	$R_{DS(on)}$ (max) @ 4.5V [Ω]	Q_g (Typ) @ 10V [nC]
55	0.0065	STP80NF55-06FP	60		140
60	0.014	STP60NF06LFP	40	0.016	65
	0.016	STP60NF06FP	37		49
	0.018	STP55NF06FP	32		45
	0.018	STP55NF06LFP	35	0.02	50
	0.04	STP36NE06FP	20		50
	0.05	STP30NE06FP	17		35
	0.05	STP30NE06LFP	17	0.06	36
	0.07	STP20NE06LFP	20	0.085	26
	0.08	STP20NE06FP	20		25
	0.1	STP16NF06FP	16		10
100	0.1	STP16NF06LFP	16	0.12	12
	0.015	STP80NF10FP	80		140
120	0.13	STP14NF10FP	10		15
120	0.18	STP14NF12FP	14		15
150	0.1	STP30NS15LFP	14	0.112	70
200	0.18	IRF640FP	18		55
	0.18	IRF640MFP Δ	18		55
	0.18	STP19NB20FP	19		29
	0.4	IRF630FP	9		31
	0.4	IRF630MFP Δ	9		31
	0.4	STP10NB20FP	10		17

Δ Application specific for monitors

TO-220FP



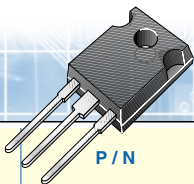
Cont d.

V_{DS} [V]	$R_{DS(on)}$ (max) @ 10V [Ω]	P / N	I_D (cont) [A]	$R_{DS(on)}$ (max) @ 4.5V [Ω]	Q_g (Typ) @ 10V [nC]
250	0.28	STP16NS25FP	16		59
	0.45	STP8NS25FP	8		37
	1.1	STP6NB25FP	3.7		12
300	0.4	STP12NB30FP	6.5		29
	0.9	STP7NB30FP	7		17
400	0.25	STP17NK40ZFP	15		69
	0.55	STP11NK40ZFP	9		30
	1	STP7NK40ZFP	6		20
	1.8	STP5NK40ZFP	4		12
500	0.34	STP15NK50ZFP	14		76
	0.38	STP14NK50ZFP	14		69
	0.52	STP11NK50ZFP	10		49
	0.85	STP9NK50ZFP	9		35
500	1.5	STP5NK50ZFP	4.5		20
	2.7	STP4NK50ZFP	3		12.5
600	0.5	STP14NK60ZFP	13		75
	0.55	STP13NK60ZFP	13		66
	0.75	STP10NK60ZFP	10		50
	0.95	STP9NK60ZFD FP	6.4		41
	0.95	STP9NK60ZFP	9		40
	1.2	STP6NK60ZFP	6		33
	1.6	STP5NK60ZFP	5		25
	2	STP4NK60ZFP	4		19
	3.6	STP3NK60ZFP	3		12.5
	5	STP2HNC60FP	2.2		11.3
650	8	STP2NC60FP	1.9		8.5
	0.9	STP9NC65FP	8		44
	1.2	STP9NK65ZFP	7		44
700	1.2	STP9NK70ZFP	7.5		48
	1.38	STP7NC70ZFP	6		47
	2	STP5NC70ZFP	4.6		27
	4.7	STP3NC70ZFP	2.5		17
	8.5	STP2NC70ZFP	1.4		8
800	0.9	STP10NK80ZFP	9		72
	1.5	STP8NK80ZFP	7		50
	1.8	STP7NK80ZFP	5.2		40
	2.4	STP5NK80ZFP	4.3		32.4
	3.5	STP4NK80ZFP	3		25
	5.5	STP3NB80FP	2.6		17
900	2.0	STP6NK90ZFP*	6		50
	2.5	STP5NC90ZFP	4.6		40
	3.5	STP3NC90ZFP	3.5		27
	4.8	STP3NK90ZFP*	2.8		25
1000	2.7	STP5NB100FP	5		39
	4.4	STP4NB100FP	3.8		32
	6	STP3NB100FP	3		22

* Coming soon

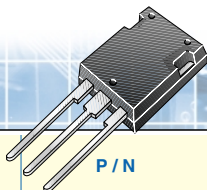
Fast Diode version in blue characters

TO-247



V_{DSS} [V]	$R_{DS(on)}(max)$ @ 10V [Ω]	P / N	$I_D(cont)$ [A]	$R_{DS(on)}(max)$ @ 4.5V [Ω]	Q_g (Typ) @ 10V [nC]
30	0.0028	STW200NF03	120		225
55	0.006	STW150NF55	120		140
60	0.01	STW80NE06-10	80		140
75	0.0044	STW220NF75	120		360
100	0.022	STW60NE10	60		142
200	0.055	STW50NB20	50		84
	0.085	IRFP250	33		117
400	0.26	STW18NB40	18.4		60
500	0.27	STW20NK50Z	18		95
	0.34	STW15NK50Z	14		90
	0.38	STW14NK50Z	14		69
600	0.48	STW14NK60Z	14		75
	0.55	STW13NK60Z	13		66
	0.75	STW10NK60Z	10		50
	1.2	STW9NK70Z	7.5		48
700	1.38	STW8NC70Z	7		47
	0.75	STW12NK80Z	10.5		87
800	0.9	STW10NK80Z	9		72
	1.5	STW8NK80Z	7		50
	1	STW9NB90	9.7		64
900	1.38	STW8NC90Z	7		73
	2.5	STW6NC90Z	5.2		40
	1.8	STW8NB100	7.3		68
1000	2.7	STW6NB100	5.4		39
	4.4	STW5NB100	4.8		32

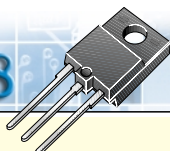
Max247



V_{DSS} [V]	$R_{DS(on)}(max)$ @ 10V [Ω]	P / N	$I_D(cont)$ [A]	$R_{DS(on)}(max)$ @ 4.5V [Ω]	Q_g (Typ) @ 10V [nC]
100	0.01	STY140NS10	149		
200	0.024	STY100NS20FD	100		360
500	0.13	STY34NB50	34		159
	0.14	STY34NB50F	34		159

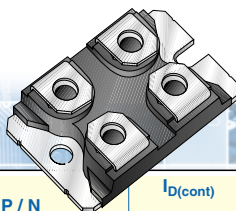
Fast Diode version in blue characters

ISOWATT218



UPON REQUEST

ISOTOP



V_{DS} [V]	$R_{DS(on)}$ (max) @ 10V [Ω]	P / N	$I_{D(cont)}$ [A]	$R_{DS(on)}$ (max) @ 4.5V [Ω]	Q_g (Typ) @ 10V [nC]
100	0.0055	STE250NS10	200		900
	0.006	STE180NE10	180		142
200	0.024	STE110NS20FD	110		360
	0.08	STE53NC50	53		310
500	0.13	STE38NB50	38		159
	0.14	STE38NB50F	38		159
600	0.135	STE40NC60	40		308

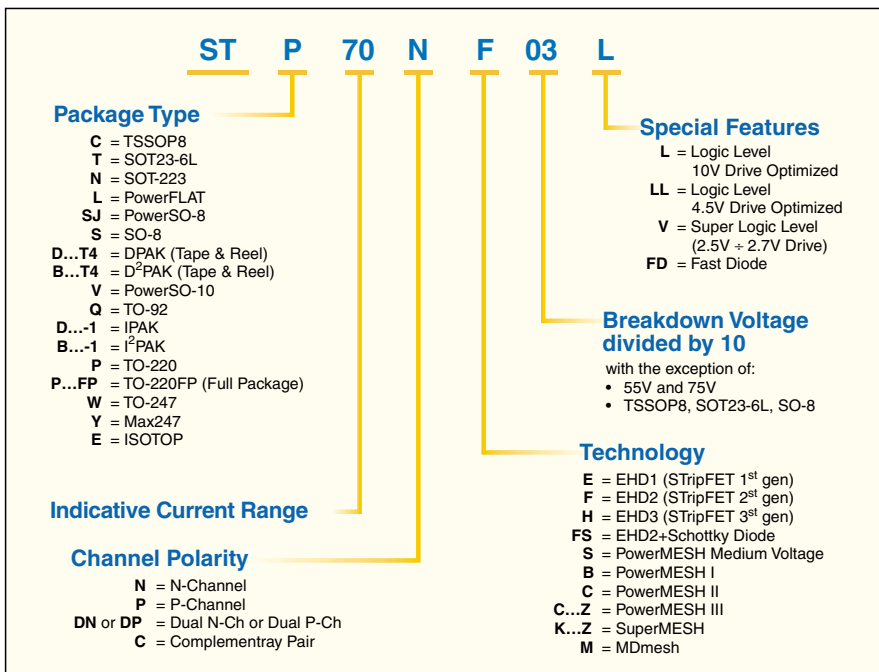
Fast Diode version in blue characters

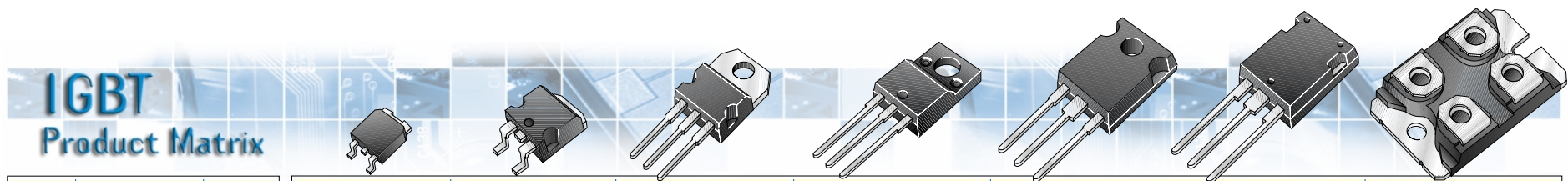
Product Guidelines

In a highly dynamic and competitive environment, ST continues to propose cost effective and high performance products, while supporting ongoing projects using previous generations.
To make sure that our customers fully benefit from the innovation that ST provides, we would like to make these suggestions:

- For the design-in of Low Voltage products:
Use the NF series rather than the NE where similar performance is guaranteed.
- For the design-in of the High Voltage products:
Use the NKZ, NC & NCZ rather than the NB series where similar performance is guaranteed.
- The NM series, or better known as "MDmesh", makes a quantum leap in performance in the High Voltage range for innovative applications.
- For the availability of other MOSFETs refer to your local Sales and Marketing Organization.

Part Number Nomenclature





B_{vce} (V)	FEATURE	I_{cn} (A) 100°C	DPAK +Diode	D ² PAK +Diode	TO-220 +Diode	TO-220FP Full Pak+Diode	TO-247 +Diode	Max247 +Diode	ISOTOP +Diode
320 375	Logic Level Fully Clamped 0-10 kHz	30 20 30		STGB20NB32LZ STGB10NB37LZ STGB20NB37LZ	STGP10NB37LZ				
600	Standard Speed low drop 0-1 kHz	3 7 10 50 100	STGD3NB60S (D) STGD7NB60S	STGB3NB60S (D) STGB7NB60S (D)	STGP3NB60S (D) STGP7NB60S (D) STGP10NB60S	STGP3NB60S(D)FP STGP7NB60S(D)FP	STGW50NB60S	STGY50NB60S (D)	STGE100NB60S
600	Medium Speed 1-10 kHz	50					STGW50NB60M		
600	Medium Speed 10-20 kHz	3 7 12	STGD3NB60F STGD7NB60F	STGB3NB60F (D) STGB7NB60F (D) STGB12NB60F (D)	STGP3NB60F (D) STGP7NB60F (D) STGP12NB60F (D)	STGP3NB60F(D)FP STGP7NB60F(D)FP STGP12NB60F(D)FP			
600	Fast Switching 20-60 kHz	3 7 12 20 30 50	STGD3NB60H STGD7NB60H	STGB3NB60H (D) STGB7NB60H (D) STGB12NB60H (D)	STGP3NB60H (D) STGP7NB60H (D) STGP12NB60H (D) STGP20NB60H	STGP3NB60H(D)FP STGP7NB60H(D)FP	STGW12NB60H (D) STGW20NB60H (D) STGW30NB60H (D)	STGY50NB60H (D)	STGE50NB60H (D)
600	Short Circuit Rugged Fast Switching 20-60 kHz	3 7 20	STGD3NB60K STGD7NB60K	STGB3NB60K (D) STGB7NB60K (D)	STGP3NB60K (D) STGP7NB60K (D) STGP20NB60K	STGP3NB60H(D)FP STGP7NB60H(D)FP	STGW20NB60K (D)		
600	Hyper Fast Switching 60-120 kHz	50					STGW50NB60V		
1200	Low Speed 0-10 kHz	5	STGD5NB120Z-1						

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