

HiPerFET™ Power MOSFET



Type	V _{DSS} max.	R _{DS(ON)} max.	Chip type	Chip size dimensions		Source - bond wire recommended	Equivalent device data sheet
	V	Ω		mm	mils		
IXFD76N07-7X	70	0.015	7X	8.84 x 7.18	348 x 283	15 mil x 3	IXFH76N07
IXFD180N07-9X		0.007	9X	14.20 x 10.60	559 x 417	15 mil x 6	IXFK180N07
IXFD340N07-9Y		0.005	9Y	15.81 x 14.31	623 x 563	12 mil x 12	IXFN340N07
IXFD180N085-9X	85	0.007	9X	14.20 x 10.60	559 x 417	15 mil x 6	IXFK180N085
IXFD280N085-9Y		0.005	9Y	15.81 x 14.31	623 x 563	12 mil x 12	IXFN280N085
IXFD75N10-7X	100	0.026	7X	8.84 x 7.18	348 x 283	15 mil x 3	IXFH75N10
IXFD80N10Q-8X		0.018	8X	12.2 x 7.20	480 x 283	15 mil x 4	IXFH80N10Q
IXFD170N10-9X		0.011	9X	14.20 x 10.60	559 x 417	15 mil x 6	IXFK170N10
IXFD230N10-9Y		0.007	9Y	15.81 x 14.31	623 x 563	12 mil x 12	IXFN230N10
IXFD70N15-7X	150	0.032	7X	8.84 x 7.18	348 x 283	15 mil x 3	IXFH70N15
IXFD150N15-9X		0.013	9X	14.20 x 10.60	559 x 417	15 mil x 6	IXFK150N15
IXFD50N20-7X	200	0.049	7X	8.84 x 7.18	348 x 283	15 mil x 3	IXFH50N20
IXFD60N20F-74		0.042	74	9.58 x 7.13	377 x 281	15 mil x 3	IXFH60N20F
IXFD66N20Q-72		0.044	72	8.89 x 7.16	350 x 282	15 mil x 3	IXFH66N20Q
IXFD88N20Q-82		0.035	82	12.17 x 7.14	479 x 281	15 mil x 4	IXFH88N20Q
IXFD120N20-9X		0.020	9X	14.20 x 10.60	559 x 417	15 mil x 6	IXFK120N20
IXFD180N20-9Y		0.014	9Y	15.81 x 14.31	623 x 563	12 mil x 12	IXFN180N20
IXFD40N30Q-72	300	0.095	72	8.89 x 7.16	350 x 282	15 mil x 3	IXFH40N30Q
IXFD40N30-7X		0.090	7X	8.84 x 7.18	348 x 283	15 mil x 3	IXFH40N30
IXFD52N30Q-82		0.075	82	12.17 x 7.14	479 x 281	15 mil x 4	IXFH52N30Q
IXFD73N30Q-8Y		0.050	8Y	13.98 x 9.02	550 x 355	12 mil x 6	IXFK73N30Q
IXFD90N30-9X		0.040	9X	14.20 x 10.60	559 x 417	15 mil x 6	IXFK90N30
IXFD130N30-9Y		0.028	9Y	15.81 x 14.31	623 x 563	12 mil x 12	IXFN130N30

This table reflects only new designed chips. Please contact factory for older designs.

HiPerFET™ Power MOSFETs

The High Performance MOSFET family of Power MOSFETs is designed to provide superior dv/dt performance while eliminating the need for discrete, fast recovery "free wheeling diodes" in a broad range of power switching applications.

This class of Power MOSFET uses IXYS' HDMOS process, which improves the ruggedness of the MOSFET while reducing the reverse recovery time of the fast intrinsic diode to 250 ns or less at elevated (150°C) junction temperature. The performance of the fast intrinsic diode is comparable to discrete high voltage diodes and is tailored to minimize power dissipation and stress in the MOSFET.

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Type	V _{DSS} max.	R _{DS(ON)} max.	Chip type	Chip size dimensions		Source - bond wire recommended	Equivalent device data sheet
	V	Ω		mm	mils		
IXFD13N50F-5F	500	0.420	5F	7.35 x 5.91	289 x 233	10 mil x 4	IXFH13N50F
IXFD21N50F-7F		0.270	7F	8.89 x 7.16	350 x 282	15 mil x 3	IXFH21N50F
IXFD24N50-7X		0.250	7X	8.84 x 7.18	348 x 283	15 mil x 3	IXFH24N50
IXFD26N50Q-72		0.235	72	8.89 x 7.16	350 x 282	15 mil x 3	IXFH26N50Q
IXFD28N50F-74		0.220	74	9.58 x 7.13	377 x 281	15 mil x 3	IXFH28N50F
IXFD32N50-8X		0.160	8X	12.2 x 7.20	480 x 283	15 mil x 4	IXFH32N50
IXFD40N50Q-82		0.150	82	12.17 x 7.14	479 x 281	15 mil x 4	IXFH40N50Q
IXFD40N50Q2-84		0.150	84	12.17 x 7.15	479 x 281	15 mil x 4	IXFH40N50Q2
IXFD44N50F-8F		0.130	8F	13.98 x 9.02	550 x 355	12 mil x 6	IXFK48N50Q
IXFD48N50Q-8Y		0.110	8Y	13.98 x 9.02	550 x 355	12 mil x 6	IXFK48N50Q
IXFD55N50-9X		0.100	9X	14.20 x 10.60	559 x 417	15 mil x 6	IXFK55N50
IXFD55N50F-9F		0.100	9F	14.20 x 10.60	559 x 417	15 mil x 6	IXFK55N50F
IXFD66N50Q2-94		0.085	94	14.20 x 10.60	559 x 417	15 mil x 6	IXFK66N50Q2
IXFD80N50Q2-95	0.070	95	15.81 x 12.50	623 x 492	15 mil x 6	IXFB80N50Q2	
IXFD80N50-9Y	0.060	9Y	15.81 x 14.31	623 x 563	12 mil x 12	IXFN80N50	
IXFD36N55Q2-84	550	0.180	84	12.17 x 7.15	479 x 281	15 mil x 4	IXFH36N55Q2
IXFD72N55Q2-95		0.080	95	15.81 x 12.50	623 x 492	15 mil x 6	IXFB72N55Q2
IXFD60N55Q2-94		0.010	94	14.20 x 10.60	559 x 417	15 mil x 6	IXFK60N55Q2
IXFD23N60Q-72	600	0.350	72	8.89 x 7.16	350 x 282	15 mil x 3	IXFH23N60Q
IXFD20N60-7X		0.350	7X	8.84 x 7.18	348 x 283	15 mil x 3	IXFH20N60
IXFD30N60Q-82		0.250	82	12.17 x 7.14	479 x 281	15 mil x 4	IXFH30N60Q
IXFD36N60Q-8Y		0.170	8Y	13.98 x 9.02	550 x 355	12 mil x 6	IXFK36N60Q
IXFD44N60-9X		0.140	9X	14.20 x 10.60	559 x 417	15 mil x 6	IXFK44N60
IXFD52N60Q2-94		0.130	94	14.20 x 10.60	559 x 417	15 mil x 6	IXFK52N60Q2
IXFD70N60Q2-95		0.090	95	15.81 x 12.50	623 x 492	15 mil x 6	IXFB70N60Q2
IXFD60N60-9Y		0.090	9Y	15.81 x 14.31	623 x 563	12 mil x 12	IXFN60N60

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HiPerFET™s offer extended dv/dt ruggedness

The HiPerFET™ series of Power MOSFETs have an extended stress capability in applications where the intrinsic "free-wheeling diode" is used. Both static and dynamic dv/dt withstand capability have been improved to offer a significant margin of safety in high stress conditions found in many types of inductive load switching applications.

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	V	Ω		mm	mils		
	IXFD15N80-7X IXFD15N80Q-7Y IXFD17N80Q-72 IXFD20N80Q-8X IXFD23N80Q-82 IXFD27N80Q-8Y IXFD34N80-9X IXFD38N80Q2-94 IXFD50N80Q2-95 IXFD44N80-9Y	800		0.700 0.700 0.670 0.450 0.440 0.350 0.250 0.250 0.170 0.160	7X 7Y 72 8X 82 8Y 9X 94 95 9Y		
IXFD12N90-7L IXFD16N90Q-8X IXFD24N90Q-8Y IXFD26N90-9X IXFD39N90-9Y	900	0.900 0.650 0.500 0.330 0.220	7L 8X 8Y 9X 9Y	8.91 x 7.22 12.2 x 7.20 13.98 x 9.02 14.20 x 10.60 15.81 x 14.31	351 x 284 480 x 283 550 x 355 559 x 417 623 x 563	12 mil x 4 15 mil x 4 12 mil x 6 15 mil x 6 12 mil x 12	IXFH12N90 IXFH16N90Q IXFK24N90Q IXFK26N90 IXFN39N90
IXFD6N100F-5F IXFD6N100Q-5U IXFD10N100-7Y IXFD14N100Q2-7F IXFD14N100-8X IXFD21N100Q-8Y IXFD21N100F-8F IXFD24N100-9X IXFD24N100F-9F IXFD38N100Q2-95 IXFD36N100-9Y	1000	2.000 2.000 1.200 1.000 0.750 0.520 0.520 0.420 0.420 0.280 0.270	5F 5U 7Y 7F 8X 8Y 8F 9X 9F 95 9Y	7.35 x 5.91 6.81 x 6.74 8.89 x 7.16 8.89 x 7.16 12.2 x 7.20 13.98 x 9.02 13.98 x 9.02 14.20 x 10.60 14.20 x 10.60 15.81 x 12.50 15.81 x 14.31	289 x 233 268 x 265 350 x 282 350 x 282 480 x 283 550 x 355 550 x 355 559 x 417 559 x 417 623 x 492 623 x 563	10 mil x 2 10 mil x 2 15 mil x 3 12 mil x 4 15 mil x 4 12 mil x 6 12 mil x 6 15 mil x 6 15 mil x 6 15 mil x 6 12 mil x 12	IXFH6N100F IXFH6N100Q IXFH10N100 IXFH14N100Q2 IXFH14N100 IXFK21N100Q IXFK21N100F IXFK24N100 IXFK24N100F IXFB38N100Q2 IXFN36N100
IXFD3N120-4U	1200	4.500	4U	5.77 x 4.96	227 x 195	12 mil x 1	IXFP3N120

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'Q - Class' and 'Q2 - Class' HiPerFET™ MOSFETs for Lower Gate Charge and Faster Switching

New 'Q - class' HiPerFET MOSFETs (identified by the suffix letter Q) are the result of a revolutionary new chip design, which decreases the MOSFET's total gate charge Q_g and the Miller capacitance C_{rss}, while maintaining the ruggedness and fast switching intrinsic diode of the company's current HiPerFET product line. The result is a MOSFET with dramatically improved switching efficiencies and thus enabling higher frequency operation and smaller power supplies.

The newer 'Q2-Class' line combines the low gate charge advantages of Q-Class with a double-metal construction resulting in a new generation of MOSFETs with an intrinsic gate resistance an order of magnitude lower than conventional MOSFETs. The resulting reduction in switching losses allows large MOSFETs to operate up satisfactorily up to the multi-megahertz region.