



HIGH-VOLTAGE MOSFETs



MOSFETs

SELECTOR GUIDE

SEMICONDUCTORS

RECTIFIERS

- Schottky (single, dual)
- Standard, Fast and Ultra-Fast Recovery (single, dual)
- Bridge
- Superrectifier®
- Sinterglass Avalanche Diodes

HIGH-POWER DIODES AND THYRISTORS

- High-Power Fast-Recovery Diodes
- Phase-Control Thyristors
- Fast Thyristors

SMALL-SIGNAL DIODES

- Schottky and Switching (single, dual)
- Tuner/Capacitance (single, dual)
- Bandswitching
- PIN

ZENER AND SUPPRESSOR DIODES

- Zener (single, dual)
- TVS (TRANSORB®, Automotive, ESD, Arrays)

FETs

- Low-Voltage TrenchFET® Power MOSFETs
- High-Voltage TrenchFET® Power MOSFETs
- High-Voltage Planar MOSFETs
- JFETs

OPTOELECTRONICS

- IR Emitters and Detectors, and IR Receiver Modules
- Optocouplers and Solid-State Relays
- Optical Sensors
- LEDs and 7-Segment Displays
- Infrared Data Transceiver Modules
- Custom Products

ICs

- Power ICs
- Analog Switches

MODULES

- Power Modules (contain power diodes, thyristors, MOSFETs, IGBTs)

PASSIVE COMPONENTS

RESISTIVE PRODUCTS

- Film Resistors
 - Metal Film Resistors
 - Thin Film Resistors
 - Thick Film Resistors
 - Metal Oxide Film Resistors
 - Carbon Film Resistors
- Wirewound Resistors
- Power Metal Strip® Resistors
- Chip Fuses
- Variable Resistors
 - Cermet Variable Resistors
 - Wirewound Variable Resistors
 - Conductive Plastic Variable Resistors
- Networks/Arrays
- Non-Linear Resistors
 - NTC Thermistors
 - PTC Thermistors
 - Varistors

MAGNETICS

- Inductors
- Transformers

CAPACITORS

- Tantalum Capacitors
 - Molded Chip Tantalum Capacitors
 - Coated Chip Tantalum Capacitors
 - Solid Through-Hole Tantalum Capacitors
 - Wet Tantalum Capacitors
- Ceramic Capacitors
 - Multilayer Chip Capacitors
 - Disc Capacitors
- Film Capacitors
- Power Capacitors
- Heavy-Current Capacitors
- Aluminum Capacitors

High-Voltage MOSFETs Selector Guide

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High-Voltage MOSFETs from Vishay Intertechnology

Vishay's high-voltage MOSFET product line was acquired from International Rectifier® in 2007. It includes Gen 3.X and Gen 6.X power MOSFETs with voltages from 50 V to 1000 V and package options including the TO-220, TO-247, DPAK, IPAK, D²PAK, SOT223, FULLPAK 220, Super 247, HVMDIP, and DIEONFILM. Vishay high-voltage MOSFETs serve a wide range of applications, which include lighting ballasts, industrial systems, UPS, servers, telecom systems, electric welding, computers, and consumer appliances and electronics.

High-Voltage MOSFET Technology Features

Gen 3.0 IRFxxxx Series

- Wide voltage range
- Cost effective
- Very robust and high immunity to EMI

Gen 3.5 IRFxxxxA Series

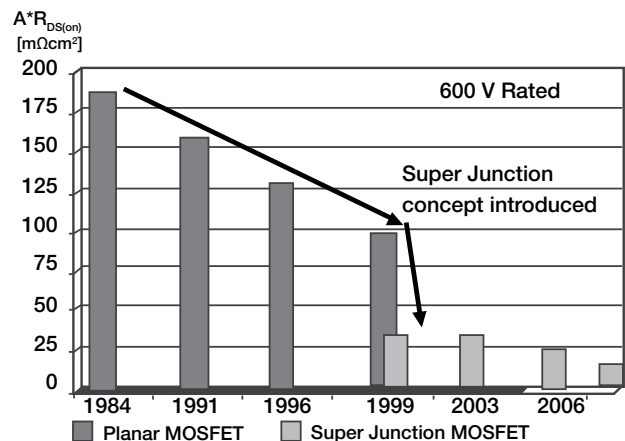
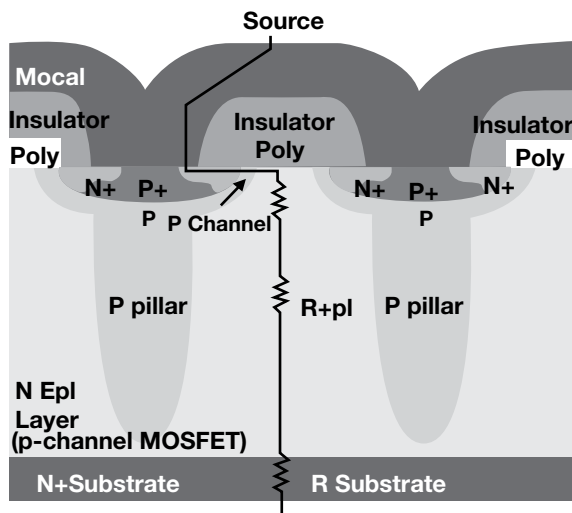
- Optimized version of Gen 3.0, more robust to transients
- Same cost as Gen 3.0

Gen 6.x IRFxxxxL series & IRFxxxxK Series

- State-of-the-art planar technology
- Best performance in hard switched systems
- Highest efficiency in ZVS / resonant applications (high efficiency)

Super Junction Technology

- Will enable a significant reduction of conducting and switching losses in switchmode power supplies (SMPS)
- Will enable the design of AC/DC power supplies that are even more efficient, more compact, lighter and cooler
- Basic principle of Super Junction technology is allowing the current to flow from top to bottom of the MOSFET in arranged high doped regions, reducing the impact of the epitaxial layer and thus bringing on-resistance close to the zero





Focus Products Selection Guide

N-Channel

Part Number	V _{DS} (V)	r _{DS(on)} at V _{GS} = 10 V (mΩ)	I _D @ TC =		Q _g Typ (nC)	Q _{gd} Typ (nC)	R _{th(JC)} (°C/W)	P _D (W) at TC = 25 °C
			25 °C (A)	100 °C (A)				
TO-220AB								
IRFZ10PBE	60	200	10	7.2	11	5.8	3.5	43
IRFZ14PBE	60	200	10	7.2	7.3	3.9	3.5	43
IRFZ44RPBE	60	28	50	36	44.7	16.7	1	150
IRLZ24PBE	60		17	12	12	8	2.5	60
IRLZ34PBE	60		30	21	23.3	16.7	1.7	88
IRF510PBE	100	540	5.6	4	5.5	2.5	3.5	43
IRF520PBE	100	270	9.2	6.5	10.7	5.1	2.5	60
IRF530PBE	100	160	14	10	17.3	7.3	1.7	88
IRF540PBE	100	77	28	20	48	21.3	1	150
IRF610PBE	200	1500	3.3	2.1	5.5	3	3.5	36
IRF620PBE	200	800	5.2	3.3	9.3	5.3	2.5	50
IRF630PBE	200	400	9	5.7	28.7	15.3	1.7	74
IRF640PBE	200	180	18	11	46.7	26	1	125
IRF614PBE	250	2000	2.7	1.7	5.5	3	3.5	36
IRF624PBE	250	1100	4.4	2.8	9.3	5.2	2.5	50
IRF634PBE	250	450	8.1	5.1	27.3	14.7	1.7	74
IRF644PBE	250	280	14	8.5	45.3	23.3	1	125
IRF710PBE	400	3600	2	1.2	11.3	5.7	3.5	36
IRF720PBE	400	1800	3.3	2.1	13.3	7.3	2.5	50
IRF730APBE	400	1000	5.5	3.5	14.7	6.2	1.7	74
IRF730PBE	400	1000	5.5	3.3	25.3	14.7	1.7	74
IRF740APBE	400	550	10	6.3	24	10.7	1	125
IRF740LCPBE	400	550	10	6.3	26	12.7	1	125
IRF740PBE	400	550	10	6.3	42	21.3	1	125
IRF820APBE	500	3000	2.5	1.6	11.3	5.7	2.5	50
IRF820PBE	500	3000	2.5	1.6	16	8.7	2.5	50
IRF830APBE	500	1400	5	3.2	16	7.3	1.7	74
IRF830PBE	500	1500	4.5	2.9	25.3	14.7	1.7	74
IRF840APBE	500	850	8	5.1	25.3	12	1	125
IRF840LCPBE	500	850	8	5.1	26	12.7	1	125
IRF840PBE	500	850	8	5.1	42	21.3	1	125
IRFB11N50APBE	500	520	11	7	34.7	12	0.75	170
IRFB13N50APBE	500	450	14	9.1	54	24	0.5	250
IRFB17N50LPBE	500	320	17	10	86.7	39.3	0.63	200
IRFB18N50KPBE	500	290	18	11	80	36	0.63	200
IRFB20N50KPBE	500	250	20	12	73.3	36	0.45	280

High-Voltage MOSFETs

Vishay Siliconix



Part Number	V _{DS} (V)	r _{DS(on)} at V _{GS} = 10 V (mΩ)	I _D @ TC =		Q _g Typ (nC)	Q _{gd} Typ (nC)	R _{th(JC)} (°C/W)	P _D (W) at TC = 25 °C
			25 °C (A)	100 °C (A)				
SIHP18N50C-E3	500	270	18	11	65	29	0.56	223
SIHP12N50C-E3	500	570	12	7.5	32	15	0.6	208
SIHP16N50C-E3	500	380	16	10	45	22	0.5	250
IRFB9N60APBF	600	750	9.2	5.8	32.7	13.3	0.75	170
IRFBC20PBF	600	4400	2.2	1.4	12	5.9	2.5	50
IRFBC30APBF	600	2200	3.6	2.3	15.3	7.3	1.7	74
IRFBC30PBF	600	2200	3.6	2.3	20.7	11.3	1.7	74
IRFBC40APBF	600	1200	6.1	3.9	28	13.3	1.3	96
IRFBC40LCPBF	600	1200	6.2	3.9	26	6	1	125
IRFBC40PBF	600	1200	6.2	3.9	40	20	1	125
SIHP22N60S-E3	600	190	22	13	75	25	0.5	250
IRFB9N65APBF	650	930	8.5	5.4	32	12.7	0.75	167
IRFBE20PBF	800	6500	1.8	1.2	25.3	14	2.3	54
IRFBE30PBF	800	3000	4.1	2.6	52	30	2	125
IRFBF20PBF	900	8000	1.7	1.1	25.3	14	2.3	54
IRFBF30PBF	900	3700	3.6	2.3	52	28	1	125
IRFBG20PBF	1000	11000	1.4	0.86	25.3	14.7	2.3	54
IRFBG30PBF	1000	5000	3.1	2	53.3	28	1	125
TO-220AB FullPAK								
IRFIZ14GPBF	60	200	8		7.3	3.9		
IRFIZ34GPBF	60	50	20	14	30.7	14.7	3.6	42
IRLIZ14GPBF	60		8	5.7	5.6	4	5.5	25
IRLIZ24GPBF	60		14	10	12	8	4.1	37
IRLIZ34GPBF	60		20	14	23.3	16.7	3.6	42
IRLIZ44GPBF	60		30	21	44	28.7	3.1	48
IRFI510GPBF	100	540	4.5	3.2	5.5	2.5	5.5	27
IRFI530GPBF	100	160	9.7		22	10		
IRLI520GPBF	100		7.2		8	4.7		
IRLI540GPBF	100		17		42.7	18		
IRFI620GPBF	200	800	4.1	2.6	9.3	5.3	4.1	30
IRFI630GPBF	200	400	5.9	3.7	28.7	15.3	3.6	32
IRFI640GPBF	200	180	9.8	6.2	46.7	26	3.1	40
IRLI620GPBF	200		4.1	2.6	10.7	6.4	4.1	30
IRLI630GPBF	200		5.9	3.7	26.7	16	3.6	32
IRLI640GPBF	200		9.8	6.2	44	25.3	3.1	40
IRFI614GPBF	250	2000	2.1	1.3	5.5	3	5.5	23
IRFI634GPBF	250	450	5.6	3.5	27.3	14.7	3.6	32
IRFI644GPBF	250	280	7.9	5	45.3	23.3	3.1	40
IRFI720GPBF	400	1800	2.6	1.7	13.3	7.3	4.1	30



Part Number	V _{DS} (V)	r _{DS(on)} at V _{GS} = 10 V (mΩ)	I _D @ TC =		Q _g Typ (nC)	Q _{gd} Typ (nC)	R _{th(JC)} (°C/W)	P _D (W) at TC = 25 °C
			25 °C (A)	100 °C (A)				
IRFI730GPBF	400	1000	3.7	2.3	25.3	14.7	3.6	32
IRFI740GLCPBF	400	550	6	39	26	12.7	3.1	40
IRFI740GPBF	400	550	5.4	3.4	44	22	3.1	40
IRFI820GPBF	500	3000	2.1	1.3	16	8.7	4.1	30
IRFI830GPBF	500	1500	3.1	2	25.3	14.7	3.6	32
IRFI840GPBF	500	850	4.6	2.9	44.7	22.7	3.1	40
IRFI840GLCPBF	500	850	4.8	2.9	26	12.7	3.1	40
IRFIB7N50APBF	500	520	6.6	4.2	34.7	12	2.1	60
SIHF8N50L-E3	500	1000	8		22	10.4	3.1	40
SIHF12N50C-E3	500	570	12	7.5	32	15	3.5	36
SIHF16N50C-E3	500	380	16	10	45	22	3.3	38
IRFIB6N60APBF	600	750	5.5	3.5	32.7	13.3	2.1	60
IRFIBC20GPBF	600	4400	1.7	1.1	12	5.9	4.1	30
IRFIBC30GPBF	600	2200	2.5	1.6	20.7	11.3	3.6	35
IRFIBC40GLCPBF	600	1200	4	39	26	12.7	3.1	40
IRFIBC40GPBF	600	1200	3.5	2.2	40	20	3.1	40
SIHF22N60S-E3	600	190	22	13	75	25	3.4	250
IRFIB5N65APBF	650	930	5.1	3.2	32	12.7	2.1	60
IRFIBE20GPBF	800	6500	1.4	0.86	25.3	14	4.1	30
IRFIBE30GPBF	800	3000	2.1	1.4	52	32	3.6	35
IRFIBF20GPBF	900	8000	1.2	0.79	25.3	14	4.1	30
IRFIBF30GPBF	900	3700	1.9	1.2	52	28	3.6	35
TO-247AC								
IRFP048PBF	60	18	70	52	73.3	25.3	0.8	190
IRFP048RPBF	60	18	70	52	73.3	25.3	0.8	190
IRFP054PBF	60	14	70	64	106.7	36	0.65	230
IRFP064PBF	60	9	70	70	126.7	60	0.5	300
IRFP240PBF	200	180	20	12	46.7	26	0.83	150
IRFP244PBF	250	280	15	9.7	42	26	0.83	150
IRFP254PBF	250	140	23	15	93.3	47.3	0.65	190
IRFP264PBF	250	75	38	24	140	65.3	0.45	280
IRFP340PBF	400	550	11	6.9	41.3	20	0.83	150
IRFP350LCPBF	400	300	18	70	50.7	24	0.65	190
IRFP350PBF	400	400	16	10	100	53.3	0.65	190
IRFP360PBF	400	200	23	14	140	73.3	0.45	280
IRFP360LCPBF	400	200	23	14	73.3	30	0.45	280
IRFP17N50LPBF	500	320	16	11	86.7	39.3	0.56	220

High-Voltage MOSFETs



Vishay Siliconix

Part Number	V _{DS} (V)	r _{DS(on)} at V _{GS} = 10 V (mΩ)	I _D @ TC =		Q _g Typ (nC)	Q _{gd} Typ (nC)	R _{th(JC)} (°C/W)	P _D (W) at TC = 25 °C
			25 °C (A)	100 °C (A)				
IRFP22N50APBF	500	230	22	14	80	34.7	0.45	277
IRFP23N50LPBF	500	235	23	15	100	48	0.34	370
IRFP31N50LPBF	500	180	31	20	140	66.7	0.26	460
IRFP32N50KPBF	500	160	32	20	126.7	56	0.26	460
IRFP440PBF	500	850	8.8	5.6	42	20	0.83	150
IRFP448PBF	500	600	11	6.6	56	33.3	0.7	180
IRFP450PBF	500	400	14	8.7	100	53.3	0.65	190
IRFP450APBF	500	400	14	8.7	42.7	17.3	0.65	190
IRFP450LCPBF	500	400	14	8.6	49.3	23.3	0.65	190
IRFP460PBF	500	270	20	13	140	73.3	0.45	280
IRFP460APBF	500	270	20	13	70	28	0.45	280
IRFP460LCPBF	500	270	20	12	80	32.7	0.45	280
IRFP21N60LPBF	600	320	21	13	50	42.7	0.38	330
IRFP22N60KPBF	600	280	22	14	100	50.7	0.34	370
IRFP26N60LPBF	600	250	26	17	180	85	0.27	470
IRFP27N60KPBF	600	220	27	18	120	57.3	0.29	500
IRFPC40PBF	600	1200	6.8	4.3	40	20	0.83	150
IRFPC50APBF	600	580	11	7	46.7	18.7	0.65	180
IRFPC50LCPBF	600	600	13	70	56	24	0.65	190
IRFPC50PBF	600	600	11	7	93.3	46	0.65	180
IRFPC60LCPBF	600	400	16	10	80	32	0.45	280
IRFPC60PBF	600	400	16	10	140	73.3	0.45	280
IRFPE30PBF	800	3000	4.1	2.6	52	32	1	125
IRFPE40PBF	800	2000	5.4	3.4	86.7	48	0.83	150
IRFPE50PBF	800	1200	7.8	4.9	133.3	73.3	0.65	190
IRFPF30PBF	900	3700	3.6	2.3	52	28	1	125
IRFPE40PBF	900	2500	4.7	2.9	80	44.7	0.83	150
IRFPE50PBF	900	1600	6.7	4.2	133.3	73.3	0.65	190
IRFPG30PBF	1000	5000	3.1	2	53.3	28	1	125
IRFPG40PBF	1000	3500	4.3	2.7	80	43.3	0.83	150
IRFPG50PBF	1000	2000	6.1	3.9	126.7	73.3	0.65	190
SIHG20N50C-E3	500	270	20	11	65	29	0.5	292
SIHG22N60S-E3	600	190	22	13	75	25	0.5	250
Super 247 (TO-247AA)								
IRFPS37N50APBF	500	130	36	23	120	47.3	0.28	446
IRFPS40N50LPBF	500	100	40	26	253.3	126.7	0.28	450
IRFPS43N50KPBF	500	90	43	27	233.3	120	0.28	450
IRFPS38N60LPBF	600	150	38	24	213.3	106.7	0.22	540
IRFPS40N60KPBF	600	130	40	24	220	100	0.22	570



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			25 °C (A)	100 °C (A)				
T0-262								
IRF640LPBF	200	180	18	11	46.7	26	1	130
IRF730ALPBF	400	1000	5.5	3.5	14.7	6.2	1.7	74
IRF740ALPBF	400	550	10	6.3	24	10.7	1	125
IRF820ALPBF	500	3000	2.5	1.6	11.3	5.7	2.5	50
IRF830ALPBF	500	1400	5	3.2	16	7.3	1.7	74
IRF840ALPBF	500	850	8	5.1	25.3	12	1	125
IRF840LCLPBF	500	850	8	5.1	26	12.7	1	125
IRFSL11N50APBF	500	550	11	7	34	15.3	0.75	190
IRFBC20LPBF	600	4400	2.2	1.4	12	5.9	2.5	50
IRFBC30ALPBF	600	2200	3.6	2.3	15.3	7.3	1.7	74
IRFBC30LPBF	600	2200	3.6	2.3	20.7	11.3	1.7	74
IRFBC40LPBF	600	1200	6.2	3.9	40	20	1	130
IRFBE30LPBF	800	3000	4.1	2.6	52	30	1	125
IRFBE20LPBF	900	8000	1.7	1.1	25.3	14	2.3	54
D2 PAK(TO-263)								
IRFZ48RSPBF	60	18	50	50	73.3	24	0.8	190
IRF510SPBF	100	540	5.6	4	5.5	2.5	3.5	43
IRF530SPBF	100	160	14	10	17.3	7.3	1.7	88
IRF540SPBF	100	77	28	20	48	21.3	1	150
IRF610SPBF	200	1500	3.3	2.1	5.5	3	3.5	36
IRF620SPBF	200	800	5.2	3.3	9.3	5.3	2.5	50
IRF630SPBF	200	300	9	5.7	23.3	11.3	1.7	74
IRL620SPBF	200		5.2	3.3	10.7	6.4	2.5	50
IRL630SPBF	200		9	5.7	26.7	16	1.7	74
IRL640SPBF	200		17	11	44	25.3	1	125
IRF614SPBF	250	2000	2.7	1.7	5.5	3	3.5	36
IRF624SPBF	250	1100	4.4	2.8	9.3	5.2	2.5	50
IRF634SPBF	250	450	8.1	5.1	27.3	14.7	1.7	74
IRF644SPBF	250	280	14	8.5	45.3	23.3	1	125
IRF710SPBF	400	3600	2	1.2	11.3	5.7	3.5	36
IRF720SPBF	400	1800	3.3	2.1	13.3	7.3	2.5	50
IRF730SPBF	400	1000	5.5	3.3	14.7	6.2	1.7	74
IRF740SPBF	400	550	10	6.3	42	21.3	1	125
IRF820SPBF	500	3000	2.5	1.6	16	8.7	2.5	50
IRF830SPBF	500	1500	4.5	2.9	25.3	14.7	1.7	74
IRF840SPBF	500	850	8	5.1	42	21.3	1	125
IRFS11N50APBF	500	520	11	7	34.7	12	0.75	170
SIHB12N50C-E3	500	570	12	7.5	32	15	0.6	208

High-Voltage MOSFETs



Vishay Siliconix

Part Number	V _{DS} (V)	r _{DS(on)} at V _{GS} = 10 V (mΩ)	I _D @ TC =		Q _g Typ (nC)	Q _{gd} Typ (nC)	R _{th(JC)} (°C/W)	P _D (W) at TC = 25 °C
			25 °C (A)	100 °C (A)				
SIHB16N50C-E3	500	380	16	10	45	22	0.5	250
IRFBC40ASPBE	600	1200	6.2	3.9	28	13.3	1	125
IRFS9N60APBE	600	750	9.2	5.8	32.7	13.3	0.75	170
SIHB22N60S-E3	600	190	22	13	75	25	0.5	250
DPAK(TO-252)								
IRFR014PBE	60	200	7.7	4.9	7.3	3.9	5	25
IRFR020PBE	60	100	14	9	16.7	7.3	3	42
IRFR110PBE	100	540	4.3	2.7	5.5	2.5	5	25
IRLR110PBE	100		4.3	2.7	4.1	2.2	5	25
IRFR210PBE	200	1500	2.6	1.7	5.5	3	5	25
IRFR214PBE	250	2000	2.2	1.4	5.5	3	5	25
IRFR224PBE	250	1100	3.8	2.4	9.3	5.2	3	42
IRFR310PBE	400	3600	1.7	1.1	8	4.3	5	25
IRFR320PBE	400	1800	3.1	2	13.3	7.3	3	42
IRFR420APBE	500	3000	3.3	2.1	11.3	5.7	1.5	83
IRFR420PBE	500	3000	2.4	1.5	12.7	8.7	3	42
IRFR430APBE	500	1700	5	3.2	16	8.7	1.1	110
IRFR1N60APBE	600	7000	1.4	0.89	9.3	5.4	3.5	36
IRFRC20PBE	600	4400	2	1.3	12	5.9	3	42
IPAK								
IRFU430APBE	500	1700	5	3.2	16	8.7	1.1	110
IRFU420APBE	500	3000	3.3	2.1	11.3	5.7	1.5	83
SOT-223								
IRFL014PBE	60	200	2.7	1.7	7.3	3.9	40	3.1
IRFL110PBE	100	540	1.5	0.96	5.5	2.5	40	3.1
IRLL110PBE	100				4.1	2.2	40	3.1
IRFL210PBE	200	1500	0.96	0.6	5.5	3	60	3.1
IRFL214PBE	250	2000	0.79	0.5	5.5	3	40	3.1
HVMDIP								
IRFDQ14PBE	60	200	1.7	1.2	7.3	3.9	120	1.3
IRFDQ24PBE	60	100	2.5	1.8	16.7	7.3	120	1.3
IRFD110PBE	100	540	1	0.71	5.5	2.5	120	1.3
IRFD120PBE	100	270	1.3	0.94	10.7	5.1	120	1.3
IRFD123PBE	100	270	1.3	0.94	16	7.7		1.3
IRFD210PBE	200	1500	0.6	0.38	5.5	3	120	1.3
IRFD214PBE	250	2000	0.57	0.32	5.5	3	120	1.3
IRFD220PBE	200	800	0.8	0.5	9.3	5.3	120	1.3
IRFD224PBE	250	1100	0.76	0.43	9.3	5.2	120	1.3
IRFD310PBE	400	3600	0.42	0.23	11.3	5.7	120	1.3



Part Number	V _{DS} (V)	r _{DS(on)} at V _{GS} = 10 V (mΩ)	I _D @ TC =		Q _g Typ (nC)	Q _{gd} Typ (nC)	R _{th(JC)} (°C/W)	P _D (W) at TC = 25 °C
			25 °C (A)	100 °C (A)				
IRFD320PBF	400	1800	0.6	0.33	13.3	7.3	120	1.3
IRFD420PBF	500	3000	0.46	0.26	16	8.7	120	1.3
IRFDC20PBF	600	4400	0.32	0.21	12	5.9	120	1.3
IRLD014PBF	60	200	1.7	1.2	5.6	4.3	120	1.3
IRLD024PBF	60		2.5	1.8	12	8	120	1.3
IRLD110PBF	100		1	0.7	4.1	2.2	120	1.3
IRLD120PBF	100		1.3	0.94	8	4.7	120	1.3

P-Channel

Part Number	V _{DS} (V)	r _{DS(on)} at V _{GS} = 10 V (mΩ)	I _D @ TC =		Q _g Typ (nC)	Q _{gd} Typ (nC)	R _{th(JC)} (°C/W)	P _D (W) at TC = 25 °C
			25 °C (A)	100 °C (A)				
TO-220AB								
IRF9610PBF	-200	3000	-1.8	-1	7.3	2.7	6.4	20
IRF9620PBF	-200	1500	-2.5	-2	14.7	6.7	3.1	40
IRF9630PBF	-200	800	-6.5	-4	19.3	10	1.7	74
IRF9640PBF	-200	500	-11	-6.8	29.3	18	1	125
IRF9510PBF	-100	1200	-4	-2.8	5.8	2.7	3.5	43
IRF9520PBF	-100	600	-6.8	-4.8	12	6	2.5	60
IRF9530PBF	-100	300	-12	-8.2	25.3	14	1.7	88
IRF9540PBF	-100	200	-19	-13	40.7	19.3	1	150
IRF9Z14PBF	-60	500	-6.7	-4.7	8	3.4	3.5	43
IRF9Z24PBF	-60	280	-11	-7.7	12.7	7.3	2.5	60
IRF9Z34PBF	-60	140	-18	-13	22.7	10.7	1.7	88
IRF9Z10PBF	-60	500	-6.7	-4.7	12	5.1	3.5	43
IRF9Z20PBF	-50	280	-9.7	-6.1	26	8.6	3.1	40
TO-220AB FullPAK								
IRFI9634GPBF	-250	1000	-4.1	-2.6	25.3	12	3.6	35
IRFI9610GPBF	-200	3000	-2	-1.3	8.7	4.9	4.6	27
IRFI9620GPBF	-200	1500	-3	-1.9	10	5.6	4.1	30
IRFI9630GPBF	-200	800	-4.3	-2.7	19.3	10	3.6	40
IRFI9640GPBF	-200	500	-6.1	-3.9	29.3	18	3.1	40
IRFI9520GPBF	-100	600	-5.2	-3.6	12	6	4.1	37
IRFI9530GPBF	-100	300	-7.7	-5.4	25.3	14	3.6	38
IRFI9540GPBF	-100	200	-13	-9.2	40.7	19.3	3.6	42
IRFI9Z14GPBF	-60	500	-5.3	-3.8	8	3.4	5.5	27
IRFI9Z24GPBF	-60	280	-8.5	-6	12.7	7.3	4.1	37
IRFI9Z34GPBF	-60	140	-12	-8.5	23.3	10.7	3.6	42
TO-247AC								
IRFP9240PBF	-200	500	-12	-7.5	29.3	18	0.83	150
IRFP9140PBF	-100	200	-21	-15	40.7	19.3	0.83	180
TO-262								
IRF9Z14LPBF	-60	500	-6.7	-4.7	8	3.4	3.5	43
IRF9Z24LPBF	-60	280	-11	-7.7	12.7	7.3	2.5	60
D2 PAK (TO-263)								
IRF9610SPBF	-200	3000	-1.8	-1	7.3	2.7	6.4	20
IRF9620SPBF	-200	1500	-2.5	-2	14.7	6.7	3.1	40
IRF9630SPBF	-200	800	-6.5	-4	19.3	10	1.7	74



Part Number	V _{DS} (V)	r _{DS(on)} at V _{GS} = 10 V (mΩ)	I _D @ TC =		Q _g Typ (nC)	Q _{gd} Typ (nC)	R _{th(JC)} (°C/W)	P _D (W) at TC = 25 °C
			25 °C (A)	100 °C (A)				
IRF9640SPBF	-200	500	-11	-6.8	29.3	18	1	125
IRF9510SPBF	-100	1200	-4	-2.8	5.8	2.7	3.5	43
IRF9520SPBF	-100	600	-6.8	-4.8	18	10	2.5	60
IRF9530SPBF	-100	300	-12	-8.2	2.5	14	1.7	88
IRF9540SPBF	-100	200	-19	-13	40.7	19.3	1	150
DPAK (TO-252)								
IRFR9310PBF	-400	7000	-1.8	-1.1	8.7	3.3	2.5	50
IRFR9214PBF	-250	3000	-2.7	-1.7	9.3	4.5	2.5	50
IRFR9210PBF	-200	3000	-1.9	-1.2	5.9	2.6	5	25
IRFR9220PBF	-200	1500	-3.6	-2.3	13.3	7.3	3	42
IRFR9110PBF	-100	1200	-3.1	-2	5.8	2.7	5	25
IRFR9120PBF	-100	600	-5.6	-3.6	12	6	3	42
IRFR9014PBF	-60	500	-5.1	-3.2	8	3.4	5	25
IRFR9024PBF	-60	280	-8.8	-5.6	12.7	7.3	3	42
IRFR9020PBF	-50	280	-9.9	-6.3	14	6.5	3.0	42
SOT-223								
IRFL9110PBF	-100	1200	-1.1	-0.69	8.7	4.1	40	3.1
IRFL9014PBF	-60	500	-1.8	-1.1	12	5.1	40	3.1
HVMDIP								
IRFD9014PBF	-60	500	-1.1	-0.8	8	3.4	120	1.3
IRFD9020PBF	-60	280	-1.6	-1.1	19	11		1.3
IRFD9024PBF	-60	280	-1.6	-1.1	12.7	7.3	120	1.3
IRFD9110PBF	-100	1200	-0.7	-0.49	5.8	2.7	120	1.3
IRFD9120PBF	-100	600	-1	-0.7	12	6	120	1.3
IRFD9210PBF	-200	3000	-0.4	-0.25	5.9	2.6	120	1.3
IRFD9220PBF	-200	1500	-0.56	-0.36	10	5.6	120	1.3

Halogen-free

Part Number	V _{DS} (V)	r _{DS(on)} at V _{GS} = 10 V (mΩ)	I _D @ TC =		Q _g Typ (nC)	Q _{gd} Typ (nC)	R _{th(JC)} (°C/W)	P _D (W) at TC = 25 °C
			25 °C (A)	100 °C (A)				
D2PAK								
SIHF9610S-GE3	-200	3000	-1.8	-1	7.3	2.7	6.4	20
SIHF9620S-GE3	-200	1500	-2.5	-2	14.7	6.7	3.1	40
SIHF9630S-GE3	-200	800	-6.5	-4	19.3	10	1.7	74
SIHF9640S-GE3	-200	500	-11	-6.8	29.3	18	1	125
SIHF9640L-GE3	-200	500	-11	-6.8	29.3	18	1	125
SIHF9510S-GE3	-100	1200	-4	-2.8	5.8	2.7	3.5	43
SIHF9520S-GE3	-100	600	-6.8	-4.8	18	10	2.5	60
SIHF9530S-GE3	-100	300	-12	-8.2	2.5	14	1.7	88
SIHF9540S-GE3	-100	200	-19	-13	40.7	19.3	1	150
SIHF9Z14L-GE3	-60	500	-6.7	-4.7	8	3.4	3.5	43
SIHF9Z14S-GE3	-60	500	-6.7	-4.7	8	3.4	3.5	43
SIHF9Z24S-GE3	-60	280	-11	-7.7	12.7	7.3	2.5	60
SIHF9Z34S-GE3	-60	140	-18	-13	34	16	1.7	88
SIHFZ48RS-GE3	60	18	50	50	110	36	0.8	190
SIHFZ14L-GE3	60	200	10	7.2	11	5.8	3.5	43
SIHFZ14S-GE3	60	200	10	7.2	11	5.8	3.5	43
SIHFZ24S-GE3	60	100	17	12	25	11	2.5	60
SIHFZ34S-GE3	60	50	30	21	46	22	1.7	88
SIHFZ44S-GE3	60	28	50	36	67	25	1.0	150
SIHFZ48S-GE3	60	18	50	50	110	36	0.8	190
SIHLZ24L-GE3	60		17	12	18	12	2.5	60
SIHLZ14S-GE3	60		10	7.2	8.4	6.0	3.5	43
SIHLZ24S-GE3	60		17	12	18	12	2.5	60
SIHLZ34S-GE3	60		30	21	35	25	1.7	88
SIHLZ44S-GE3	60		50	36	66	43	1.0	150
SIHF510S-GE3	100	540	5.6	4	5.5	2.5	3.5	43
SIHF520S-GE3	100	270	9.2	6.5	16	7.7	2.5	60
SIHF530S-GE3	100	160	14	10	17.3	7.3	1.7	88
SIHF540S-GE3	100	77	28	20	48	21.3	1	150
SIHL510S-GE3	100		5.6	4.0	6.1	3.3	3.5	43
SIHL530S-GE3	100		15	11	28	14	1.7	88
SIHL540S-GE3	100		28	20	64	27	1.0	150
SIHF610L-GE3	200	1500	3.3	2.1	5.5	3	3.5	36
SIHF640L-GE3	200	180	18	11	46.7	26	1	130
SIHF610S-GE3	200	1500	3.3	2.1	5.5	3	3.5	36
SIHF620S-GE3	200	800	5.2	3.3	9.3	5.3	2.5	50
SIHF630S-GE3	200	300	9	5.7	23.3	11.3	1.7	74
SIHF640S-GE3	200	180	18	11	46.7	26	1	130
SIHL620S-GE3	200		5.2	3.3	10.7	6.4	2.5	50



Part Number	V _{DS} (V)	r _{DS(on)} at V _{GS} = 10 V (mΩ)	I _D @ TC =		Q _g Typ (nC)	Q _{gd} Typ (nC)	R _{th(JC)} (°C/W)	P _D (W) at TC = 25 °C
			25 °C (A)	100 °C (A)				
SIHL630S-GE3	200		9	5.7	26.7	16	1.7	74
SIHL640S-GE3	200		17	11	44	25.3	1	125
SIHF644L-GE3	250	280	14	8.5	45.3	23.3	1	125
SIHF614S-GE3	250	2000	2.7	1.7	5.5	3	3.5	36
SIHF624S-GE3	250	1100	4.4	2.8	9.3	5.2	2.5	50
SIHF634S-GE3	250	450	8.1	5.1	27.3	14.7	1.7	74
SIHF644S-GE3	250	280	14	8.5	45.3	23.3	1	125
SIHF730AL-GE3	400	1000	5.5	3.5	14.7	6.2	1.7	74
SIHF740AL-GE3	400	550	10	6.3	24	10.7	1	125
SIHF730AS-GE3	400	1000	5.5	3.5	14.7	6.2	1.7	74
SIHF740AS-GE3	400	550	10	6.3	24	10.7	1	125
SIHF720L-GE3	400	1800	3.3	2.1	13.3	7.3	2.5	50
SIHF710S-GE3	400	3600	2	1.2	11.3	5.7	3.5	36
SIHF720S-GE3	400	1800	3.3	2.1	13.3	7.3	2.5	50
SIHF730S-GE3	400	1000	5.5	3.3	14.7	6.2	1.7	74
SIHF740S-GE3	400	550	10	6.3	42	21.3	1	125
SIHF820AL-GE3	500	3000	2.5	1.6	11.3	5.7	2.5	50
SIHF830AL-GE3	500	1400	5	3.2	16	7.3	1.7	74
SIHF840AL-GE3	500	850	8	5.1	25.3	12	1	125
SIHF820AS-GE3	500	3000	2.5	1.6	11.3	5.7	2.5	50
SIHF830AS-GE3	500	1400	5	3.2	16	7.3	1.7	74
SIHF840AS-GE3	500	850	8	5.1	25.3	12	1	125
SIHF820L-GE3	500	3000	2.5	1.6	16	8.7	2.5	50
SIHF830L-GE3	500	1500	4.5	2.9	25.3	14.7	1.7	74
SIHF840L-GE3	500	850	8	5.1	42	21.3	1	125
SIHF840LCL-GE3	500	850	8	5.1	26	12.7	1	125
SIHF840LCS-GE3	500	850	8	5.1	26	12.7	1	125
SIHF820S-GE3	500	3000	2.5	1.6	16	8.7	2.5	50
SIHF830S-GE3	500	1500	4.5	2.9	25.3	14.7	1.7	74
SIHF840S-GE3	500	850	8	5.1	42	21.3	1	125
SIHFS11N50A-GE3	500	520	11	7	34.7	12	0.75	170
SIHB22N60S-GE3	600	190	22	13	75	25	0.5	250
SIHFBC30AL-GE3	600	2200	3.6	2.3	15.3	7.3	1.7	74
SIHFBC30AS-GE3	600	2200	3.6	2.3	15.3	7.3	1.7	74
SIHFBC40AS-GE3	600	1200	6.2	3.9	28	13.3	1	125
SIHFBC20L-GE3	600	4400	2.2	1.4	12	5.9	2.5	50
SIHFBC30L-GE3	600	2200	3.6	2.3	20.7	11.3	1.7	74
SIHFBC40L-GE3	600	1200	6.2	3.9	40	20	1	130
SIHFBC20S-GE3	600	4400	2.2	1.4	12	5.9	2.5	50

High-Voltage MOSFETs



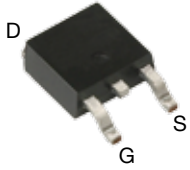
Vishay Siliconix

Part Number	V _{DS} (V)	r _{DS(on)} at V _{GS} = 10 V (mΩ)	I _D @ TC =		Q _g Typ (nC)	Q _{gd} Typ (nC)	R _{th(JC)} (°C/W)	P _D (W) at TC = 25 °C
			25 °C (A)	100 °C (A)				
SIHFBC30S-GE3	600	2200	3.6	2.3	20.7	11.3	1.7	74
SIHFBC40S-GE3	600	1200	6.2	3.9	40	20	1	130
SIHFS9N60A-GE3	600	750	9.2	5.8	32.7	13.3	0.75	170
SIHFSL9N60A-GE3	600	750	9.2	5.8	49	20	0.75	170
SIHFBE30L-GE3	800	3000	4.1	2.6	52	30	1	125
SIHFBE30S-GE3	800	3000	4.1	2.6	52	30	1	125
SIHFBF20L-GE3	900	8000	1.7	1.1	25.3	14	2.3	54
SIHFBF20S-GE3	900	8000	1.7	1.1	25.3	14	2.3	54
SIHFBF30S-GE3	900	3700	3.6	2.3	78	42	1.0	125
DPAK								
SIHFR9310-GE3	-400	7000	-1.8	-1.1	8.7	3.3	2.5	50
SIHFR9214-GE3	-250	3000	-2.7	-1.7	9.3	4.5	2.5	50
SIHFR9210-GE3	-200	3000	-1.9	-1.2	5.9	2.6	5	25
SIHFR9220-GE3	-200	1500	-3.6	-2.3	13.3	7.3	3	42
SIHFR9110-GE3	-100	1200	-3.1	-2	5.8	2.7	5	25
SIHFR9120-GE3	-100	600	-5.6	-3.6	12	6	3	42
SIHFR9014-GE3	-60	500	-5.1	-3.2	8	3.4	5	25
SIHFR9024-GE3	-60	280	-8.8	-5.6	12.7	7.3	3	42
SIHFR9010-GE3	-50	500	-5.3	-3.3	9.1	5.9	5.0	25
SIHFR9020-GE3	-50	280	-9.9	-6.3	14	6.5	3.0	42
SIHFR014-GE3	60	200	7.7	4.9	7.3	3.9	5	25
SIHFR020-GE3	60	100	14	9	16.7	7.3	3	42
SIHFR024-GE3	60	100	14	9.0	25	11	3.0	42
SIHLR014-GE3	60		7.7	4.9	8.4	6.0	5.0	25
SIHLR024-GE3	60		14	9.2	18	12	3.0	42
SIHFR110-GE3	100	540	4.3	2.7	5.5	2.5	5	25
SIHFR120-GE3	100	270	7.7	4.9	16	7.7	3.0	42
SIHLR110-GE3	100		4.3	2.7	4.1	2.2	5	25
SIHLR120-GE3	100		7.7	4.9	12	7.1	3.0	42
SIHFR210-GE3	200	1500	2.6	1.7	5.5	3	5	25
SIHFR220-GE3	200	800	4.8	3.0	14	7.9	3.0	42
SIHFR214-GE3	250	2000	2.2	1.4	5.5	3	5	25
SIHFR224-GE3	250	1100	3.8	2.4	9.3	5.2	3	42
SIHFR310-GE3	400	3600	1.7	1.1	8	4.3	5	25
SIHFR320-GE3	400	1800	3.1	2	13.3	7.3	3	42
SIHFR420-GE3	500	3000	2.4	1.5	12.7	8.7	3	42
SIHFR420A-GE3	500	3000	3.3	2.1	11.3	5.7	1.5	83
SIHFR430A-GE3	500	1700	5	3.2	16	8.7	1.1	110
SIHFR1N60A-GE3	600	7000	1.4	0.89	9.3	5.4	3.5	36
SIHFRC20-GE3	600	4400	2	1.3	12	5.9	3	42

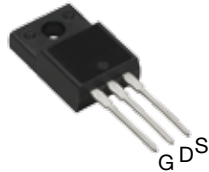


Part Number	V _{DS} (V)	r _{DS(on)} at V _{GS} = 10 V (mΩ)	I _D @ TC =		Q _g Typ (nC)	Q _{gd} Typ (nC)	R _{th(JC)} (°C/W)	P _D (W) at TC = 25 °C
			25 °C (A)	100 °C (A)				
IPAK								
SIHFU9310-GE3	-400	7000	-1.8	-1.1	8.7	3.3	2.5	50
SIHFU9214-GE3	-250	3000	-2.7	-1.7	9.3	4.5	2.5	50
SIHFU9210-GE3	-200	3000	-1.9	-1.2	5.9	2.6	5	25
SIHFU9220-GE3	-200	1500	-3.6	-2.3	13.3	7.3	3	42
SIHFU9110-GE3	-100	1200	-3.1	-2	5.8	2.7	5	25
SIHFU9120-GE3	-100	600	-5.6	-3.6	12	6	3	42
SIHFU9014-GE3	-60	500	-5.1	-3.2	8	3.4	5	25
SIHFU9024-GE3	-60	280	-8.8	-5.6	12.7	7.3	3	42
SIHFU9010-GE3	-50	500	-5.3	-3.3	9.1	5.9	5.0	25
SIHFU9020-GE3	-50	280	-9.9	-6.3	14	6.5	3.0	42
SIHFU014-GE3	60	200	7.7	4.9	7.3	3.9	5	25
SIHFU020-GE3	60	100	14	9	16.7	7.3	3	42
SIHFU024-GE3	60	100	14	9.0	25	11	3.0	42
SIHLU014-GE3	60		7.7	4.9	8.4	6.0	5.0	25
SIHLU024-GE3	60		14	9.2	18	12	3.0	42
SIHFU110-GE3	100	540	4.3	2.7	5.5	2.5	5	25
SIHFU120-GE3	100	270	7.7	4.9	16	7.7	3.0	42
SIHLU110-GE3	100		4.3	2.7	4.1	2.2	5	25
SIHLU120-GE3	100		7.7	4.9	12	7.1	3.0	42
SIHFU210-GE3	200	1500	2.6	1.7	5.5	3	5	25
SIHFU220-GE3	200	800	4.8	3.0	14	7.9	3.0	42
SIHFU214-GE3	250	2000	2.2	1.4	5.5	3	5	25
SIHFU224-GE3	250	1100	3.8	2.4	9.3	5.2	3	42
SIHFU310-GE3	400	3600	1.7	1.1	8	4.3	5	25
SIHFU320-GE3	400	1800	3.1	2	13.3	7.3	3	42
SIHFU420-GE3	500	3000	2.4	1.5	12.7	8.7	3	42
SIHFU420A-GE3	500	3000	3.3	2.1	11.3	5.7	1.5	83
SIHFU430A-GE3	500	1700	5	3.2	16	8.7	1.1	110
SIHFU1N60A-GE3	600	7000	1.4	0.89	9.3	5.4	3.5	36
SIHFUC20-GE3	600	4400	2	1.3	12	5.9	3	42
SOT223								
SIHFL9014-GE3	-60	500	-1.8	-1.1	12	5.1	40	3.1
SIHFL9110-GE3	-100	1200	-1.1	-0.69	8.7	4.1	40	3.1
SIHFL014-GE3	60	200	2.7	1.7	7.3	3.9	40	3.1
SIHLL014-GE3	60		2.7	1.7	8.4	6.0	40	3.1
SIHFL110-GE3	100	540	1.5	0.96	5.5	2.5	40	3.1
SIHLL110-GE3	100		1.5	0.93	6.1	3.3	40	3.1
SIHFL210-GE3	200	1500	0.96	0.6	5.5	3	60	3.1
SIHFL214-GE3	250	2000	0.79	0.5	5.5	3	40	3.1

Package Guide



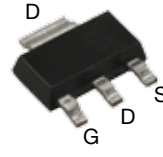
DPAK (TO-252)



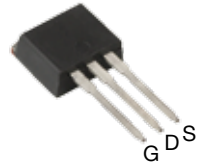
TO-220 FULL-PAK



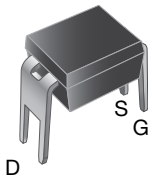
D²PAK (TO-263)



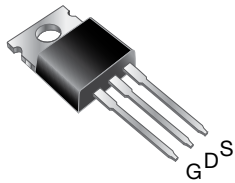
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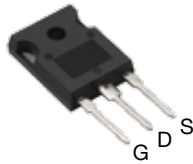
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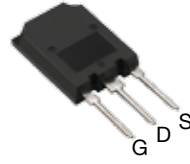
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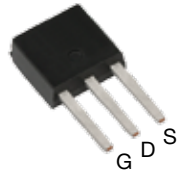
TO-220



TO-247



SUPER-247™



I-PAK



Notes

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