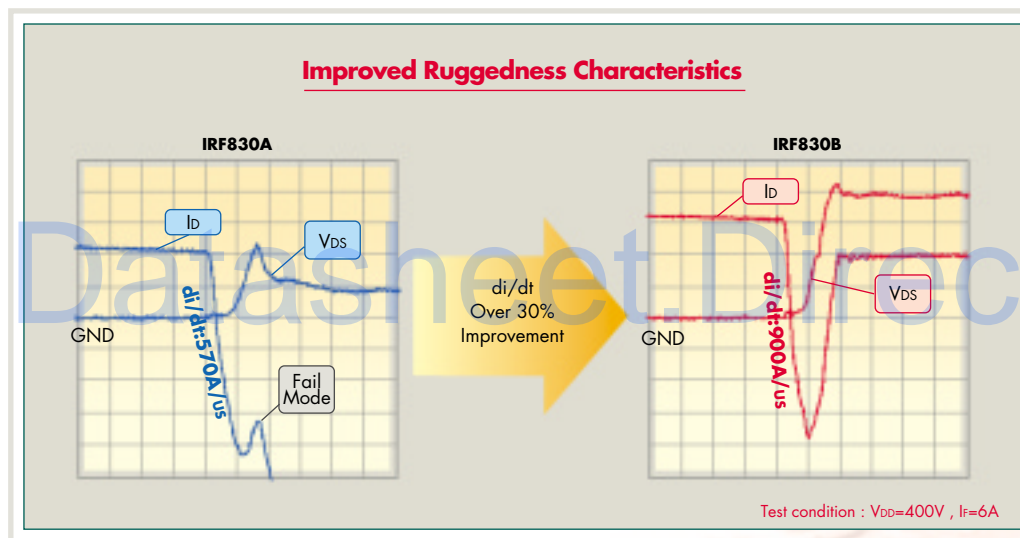


# Fairchild Power MOSFETs B-FET Line Card

## Overview

Fairchild has developed a new range of 200V~600V MOSFETs, called B-FETs, using Fairchild's proprietary, planar, DMOS technology. This advanced technology is especially tailored for minimizing on-state resistance, providing superior switching performance, and withstanding a high energy pulse in the avalanche and commutation modes. These devices are ideal for high efficiency switching DC-DC converters, SMPS(Switch Mode Power Supplies) and electronic lamp ballasts.



### Applications include:

- Monitors/TVs
- Power Supplies
- Electronic Ballasts
- Chargers/Adapters
- DC-DC Converters
- Amplifiers





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October, 2001

## Selection Guide


### D<sup>2</sup>/I<sup>2</sup>-PAK

Part Number	V <sub>DSS</sub> (V)	I <sub>D</sub> (A)	R <sub>DS(on)max</sub> ( $\frac{m\Omega}{\text{mm}^2}$ )	Q <sub>g</sub> typ (nC)	P <sub>D</sub> (W)	Previous Version	Package
IRFW610B/IRFI610B	200	3.3	1.5	7.2	38	IRFW610A/IRFI610A	 D <sup>2</sup> -PAK
IRFW620B/IRFI620B	200	5	0.8	12	47	IRFW620A/IRFI620A	
IRFW630B/IRFI630B	200	9	0.4	22	72	IRFW630A/IRFI630A	
IRFW640B/IRFI640B	200	18	0.18	45	139	IRFW640A/IRFI640A	
IRFW650B/IRFI650B	200	28	0.085	95	156		
IRFW614B/IRFI614B	250	2.8	2	8.1	40	IRFW614A/IRFI614A	
IRFW624B/IRFI624B	250	4.1	1.1	13.5	49	IRFW624A/IRFI624A	
IRFW634B/IRFI634B	250	8.1	0.45	29	74	IRFW634A/IRFI634A	
IRFW644B/IRFI644B	250	14	0.28	47	139	IRFW644A/IRFI644A	
IRFW654B/IRFI654B	250	21	0.14	95	156		
IRFW710B/IRFI710B	400	2	3.4	7.7	36	IRFW710A/IRFI710A	 I <sup>2</sup> -PAK
IRFW720B/IRFI720B	400	3.3	1.75	14	49	IRFW720A/IRFI720A	
IRFW730B/IRFI730B	400	5.5	1	25	73	IRFW730A/IRFI730A	
IRFW740B/IRFI740B	400	10	0.54	41	134	IRFW740A/IRFI740A	
SSW1N50B/SSI1N50B	500	1.5	5.3	8.3	36	SSW1N50A/SSI1N50A	
IRFW820B/IRFI820B	500	2.5	2.6	14	49	IRFW820A/IRFI820A	
IRFW830B/IRFI830B	500	4.5	1.5	27	73	IRFW830A/IRFI830A	
IRFW840B/IRFI840B	500	8	0.8	41	134	IRFW840A/IRFI840A	
SSW1N60B/SSI1N60B	600	1	12	5.9	34	SSW1N60A/SSI1N60A	
SSW2N60B/SSI2N60B	600	2	5	12.5	54	SSW2N60A/SSI2N60A	
SSW4N60B/SSI4N60B	600	4	2.5	22	100	SSW4N60A/SSI4N60A	
SSW7N60B/SSI7N60B	600	7	1.2	38	147	SSW7N60A/SSI7N60A	
SSW10N60B/SSI10N60B	600	9	0.8	54	156		

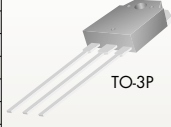
### D/I-PAK

Part Number	V <sub>DSS</sub> (V)	I <sub>D</sub> (A)	R <sub>DS(on)max</sub> ( $\frac{m\Omega}{\text{mm}^2}$ )	Q <sub>g</sub> typ (nC)	P <sub>D</sub> (W)	Previous Version	Package
IRFR210B/IRFU210B	200	2.7	1.5	7.2	26	IRFR210A/IRFU210A	 D-PAK
IRFR220B/IRFU220B	200	4.6	0.8	12	40	IRFR220A/IRFU220A	
IRFR230B/IRFU230B	200	7.5	0.4	22	50	IRFR230A/IRFU230A	
IRFR214B/IRFU214B	250	2.2	2	8.1	25	IRFR214A/IRFU214A	
IRFR224B/IRFU224B	250	3.8	1.1	13.5	42	IRFR224A/IRFU224A	
IRFR234B/IRFU234B	250	6.6	0.45	29	49		
IRFR310B/IRFU310B	400	1.7	3.4	7.7	26	IRFR310A/IRFU310A	
IRFR320B/IRFU320B	400	3.1	1.75	14	41	IRFR320A/IRFU320A	
IRFR330B/IRFU330B	400	4.5	1	25	48		
IRFU410B	520	0.9	10	5.1	20	IRFU410A	
SSR1N50B/SSU1N50B	500	1.3	5.3	8.3	26	SSR1N50A/SSU1N50A	 I-PAK
IRFR420B/IRFU420B	500	2.3	2.6	14	41	IRFR420A/IRFU420A	
IRFR430B/IRFU430B	500	3.5	1.5	25	48		
SSR1N60B/SSU1N60B	600	0.9	12	5.9	28	SSR1N60A/SSU1N60A	
SSR2N60B/SSU2N60B	600	1.8	5	12.5	44	SSR2N60A/SSU2N60A	
SSR4N60B/SSU4N60B	600	2.8	2.5	22	49		

### SOT-223


Part Number	V <sub>DSS</sub> (V)	I <sub>D</sub> (A)	R <sub>DS(on)max</sub> ( $\frac{m\Omega}{\text{mm}^2}$ )	Q <sub>g</sub> typ (nC)	P <sub>D</sub> (W)	Previous Version	Package
IRFM210B	200	0.77	1.5	7.2	2	IRFM210A	 SOT-223
IRFM220B	200	1.13	0.8	12	2.4	IRFM220A	
IRFM214B	250	0.64	2	8.1	2.1	IRFM214A	
IRFM224B	250	0.92	1.1	13.5	2.5	IRFM224A	

### TO-3P


Part Number	V <sub>DSS</sub> (V)	I <sub>D</sub> (A)	R <sub>DS(on)max</sub> ( $\frac{m\Omega}{\text{mm}^2}$ )	Q <sub>g</sub> typ (nC)	P <sub>D</sub> (W)	Previous Version	Package
IRFP240B	200	20	0.18	45	180	IRFP240A	 TO-3P
IRFP250B	200	32	0.085	95	204	IRFP250A	
SSH45N20B	200	45	0.065	133	278	SSH45N20A	
IRFP244B	250	16	0.28	47	180	IRFP244A	
IRFP254B	250	25	0.14	95	221	IRFP254A	
IRFP340B	400	11	0.54	41	162	IRFP340A	
IRFP440B	500	8.5	0.08	41	162	IRFP440A	
IRFP450B	500	14	0.39	87	205	IRFP450A	
SSH7N60B	600	7.3	1.2	38	160	SSH7N60A	
SSH10N60B	600	10	0.8	54	193	SSH10N60A	

## Selection Guide (continued)


### TO-3PF

Part Number	BV <sub>DSS</sub> (V)	I <sub>D</sub> (A)	R <sub>DSON</sub> max(□)	Q <sub>g</sub> typ (nC)	P <sub>D</sub> (W)	Previous Version	Package
IRFS240B	200	12.8	0.18	45	73	IRFS240A	 TO-3PF
IRFS250B	200	21.3	0.085	95	90	IRFS250A	
SSF45N20B	200	26.4	0.065	133	100	SSF45N20A	
IRFS244B	250	10.2	0.28	47	73	IRFS244A	
IRFS254B	250	16	0.14	95	90	IRFS254A	
IRFS340B	400	8	0.54	41	85	IRFS340A	
IRFS440B	500	6.2	0.8	41	85	IRFS440A	
IRFS450B	500	9.6	0.39	87	96	IRFS450A	
SSF7N60B	600	5.4	1.2	38	86	SSF7N60A	
SSF10N60B	600	6.9	0.8	54	90	SSF10N60A	

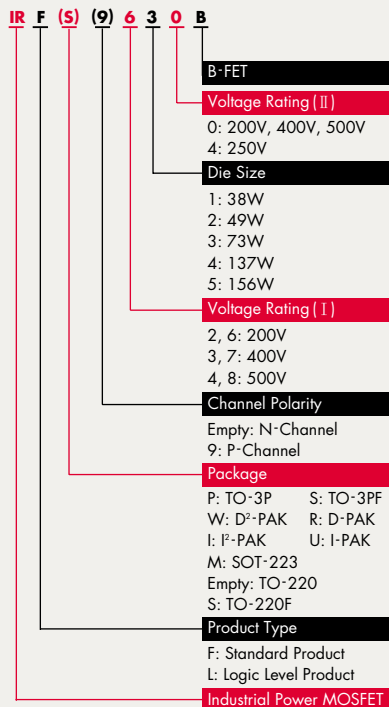
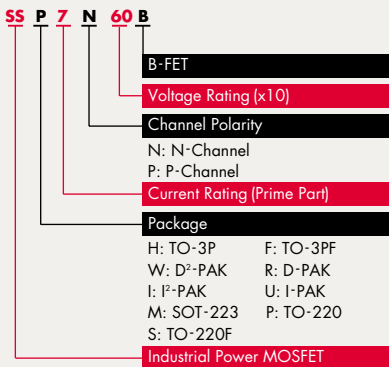
### TO-220

Part Number	BV <sub>DSS</sub> (V)	I <sub>D</sub> (A)	R <sub>DSON</sub> max(□)	Q <sub>g</sub> typ (nC)	P <sub>D</sub> (W)	Previous Version	Package
IRF610B	200	3.3	1.5	7.2	38	IRF610A	 TO-220
IRF620B	200	5	0.8	12	47	IRF620A	
IRF630B	200	9	0.4	22	72	IRF630A	
IRF640B	200	18	0.18	45	139	IRF640A	
IRF650B	200	28	0.085	95	156	IRF650A	
SSP45N20B	200	35	0.065	133	176		
IRF614B	250	2.8	2	8.1	40	IRF614A	
IRF624B	250	4.1	1.1	13.5	49	IRF624A	
IRF634B	250	8.1	0.45	29	74	IRF634A	
IRF644B	250	14	0.28	47	139	IRF644A	
IRF654B	250	21	0.14	95	156	IRF654A	
IRF710B	400	2	3.4	7.7	36	IRF710A	
IRF720B	400	3.3	1.75	14	49	IRF720A	
IRF730B	400	5.5	1	25	73	IRF730A	
IRF740B	400	10	0.54	41	134	IRF740A	
SSP1N50B	500	1.5	5.3	8.3	36	SSP1N50A	
IRF820B	500	2.5	2.6	14	49	IRF820A	
IRF830B	500	4.5	1.5	27	73	IRF830A	
IRF840B	500	8	0.8	41	134	IRF840A	
SSP1N60B	600	1	12	5.9	34	SSP1N60A	
SSP2N60B	600	2	5	12.5	54	SSP2N60A	
SSP4N60B	600	4	2.5	22	100	SSP4N60A	
SSP7N60B	600	7	1.2	38	147	SSP7N60A	
SSP10N60B	600	9	0.8	54	156	SSP10N60A	

### TO-220F

Part Number	BV <sub>DSS</sub> (V)	I <sub>D</sub> (A)	R <sub>DSON</sub> max(□)	Q <sub>g</sub> typ (nC)	P <sub>D</sub> (W)	Previous Version	Package
IRFS610B	200	3.3	1.5	7.2	22	IRFS610A	 TO-220F
IRFS620B	200	5	0.8	12	32	IRFS620A	
IRFS630B	200	9	0.4	22	38	IRFS630A	
IRFS640B	200	18	0.18	45	43	IRFS640A	
IRFS650B	200	28	0.085	95	50	IRFS650A	
SSS45N20B	200	35	0.065	133	57		
IRFS614B	250	2.8	2	8.1	22	IRFS614A	
IRFS624B	250	4.1	1.1	13.5	34	IRFS624A	
IRFS634B	250	8.1	0.45	29	38	IRFS634A	
IRFS644B	250	14	0.28	47	43	IRFS644A	
IRFS654B	250	21	0.14	95	50	IRFS654A	
IRFS710B	400	2	3.4	7.7	23	IRFS710A	
IRFS720B	400	3.3	1.75	14	33	IRFS720A	
IRFS730B	400	5.5	1	25	38	IRFS730A	
IRFS740B	400	10	0.54	41	44	IRFS740A	
SSS1N50B	500	1.5	5.3	8.3	23	SSS1N50A	
IRFS820B	500	2.5	2.6	14	33	IRFS820A	
IRFS830B	500	4.5	1.5	27	38	IRFS830A	
IRFS840B	500	8	0.8	41	44	IRF840A	
SSS1N60B	600	1	12	5.9	17	SSS1N60A	
SSS2N60B	600	2	5	12.5	23	SSS2N60A	
SSS4N60B	600	4	2.5	22	33	SSS4N60A	
SSS7N60B	600	7	1.2	38	48	SSS7N60A	
SSS10N60B	600	9	0.8	54	50	SSS10N60A	

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