

## SMALL-SIGNAL TRANSISTORS & DIODES & MEDIUM-POWER RECTIFIERS

### Small-signal FETs

#### N-CHANNEL JUNCTION FETs FOR AMPLIFIERS

type number	rating		characteristics							cut-off freq. (MHz)	package	application
	$\pm V_{DS}$ max. (V)	$I_{DSS}$ min. (mA)	$I_{DSS}$ max. (mA)	$C_{iss}$ typ. (pF)	$C_{rss}$ typ. (pF)	$ Y_{fs} ^{(1)}$ min. (mS)	$g_{os}$ typ. ( $\mu$ S)	F typ. (dB)				
<b>LEADED TYPES</b>												
BC264A	30	2.0	4.5	4	1.2	2.5	–	0.5	–	TO-92	audio	
BC264B	30	3.5	6.5	4	1.2	3.0	–	0.5	–	TO-92	audio	
BC264C	30	5	8	4	1.2	3.5	–	0.5	–	TO-92	audio	
BC264D	30	7	12	4	1.2	4.0	–	0.5	–	TO-92	audio	
BF245A	30	2.0	6.5	4	1.1	3.0	25	1.5	700	TO-92	DC, audio, VHF	
BF245B	30	6	15	4	1.1	3.0	25	1.5	700	TO-92	DC, audio, VHF	
BF245C	30	12	25	4	1.1	3.0	25	1.5	700	TO-92	DC, audio, VHF	
BF246A	25	30	80	11	3.5	8	–	–	450	TO-92	audio/VHF	
BF246B	25	60	140	11	3.5	8	–	–	450	TO-92	audio/VHF	
BF246C	25	110	250	11	3.5	8	–	–	450	TO-92	audio/VHF	
BF247A	25	30	80	11	3.5	8	–	–	450	TO-92	audio/VHF	
BF247B	25	60	140	11	3.5	8	–	–	450	TO-92	audio/VHF	
BF247C	25	110	250	11	3.5	8	–	–	450	TO-92	audio/VHF	
BF256A	30	3.0	7	2	0.7	4.5	25	7.5	1000	TO-92	VHF, UHF	
BF256B	30	6	13	2	0.7	4.5	25	7.5	1000	TO-92	VHF, UHF	
BF256C	30	11	18	2	0.7	4.5	25	7.5	1000	TO-92	VHF, UHF	
BF410A	20 <sup>3)</sup>	0.7	3.0	5 <sup>4)</sup>	0.3	2.5	60 <sup>4)</sup>	1.5	–	TO-92	VHF	
BF410B	20 <sup>3)</sup>	2.5	7	5 <sup>4)</sup>	0.3	4.0	80 <sup>4)</sup>	1.5	–	TO-92	VHF	
BF410C	20 <sup>3)</sup>	6	12	5 <sup>4)</sup>	0.3	6	100 <sup>4)</sup>	1.5	–	TO-92	VHF	
BF410D	20 <sup>3)</sup>	10	18	5 <sup>4)</sup>	0.3	7	120 <sup>4)</sup>	1.5	–	TO-92	mixers	
BF851A	25	2	6.5	10 <sup>4)</sup>	2.5 <sup>4)</sup>	12	200 <sup>4)</sup>	–	–	TO-92	audio	
BF851B	25	6	15	10 <sup>4)</sup>	2.5 <sup>4)</sup>	16	250 <sup>4)</sup>	–	–	TO-92	audio	
BF851C	25	12	25	10 <sup>4)</sup>	2.5 <sup>4)</sup>	20	300 <sup>4)</sup>	–	–	TO-92	audio	
BFU308	25	12	60	5 <sup>4)</sup>	2.5 <sup>4)</sup>	10	200 <sup>4)</sup>	1.5	–	TO-18	VHF	
BFU309	25	12	30	5 <sup>4)</sup>	2.5 <sup>4)</sup>	10	150 <sup>4)</sup>	1.5	–	TO-18	VHF	
BFU310	25	24	60	5 <sup>4)</sup>	2.5 <sup>4)</sup>	10	200 <sup>4)</sup>	1.5	–	TO-18	VHF	
BFW10	30	8	20	4	0.6	3.5	85 <sup>4)</sup>	2.5 <sup>4)</sup>	–	TO-72	broadband	
BFW11	30	4	10	4	0.6	3.0	50 <sup>4)</sup>	2.5 <sup>4)</sup>	–	TO-72	broadband	
BFW12	30	1.0	5	5 <sup>4)</sup>	0.8	2.0	30 <sup>4)</sup>	–	–	TO-72	5)	
BFW13	30	0.2	1.5	5 <sup>4)</sup>	0.8 <sup>4)</sup>	1.0	10 <sup>4)</sup>	–	–	TO-72	5)	
J308	25	12	60	5 <sup>4)</sup>	2.5 <sup>4)</sup>	8	200 <sup>4)</sup>	1.5	–	TO-92	VHF	
J309	25	12	30	5 <sup>4)</sup>	2.5 <sup>4)</sup>	10	150 <sup>4)</sup>	1.5	–	TO-92	VHF	
J310	25	24	60	5 <sup>4)</sup>	2.5 <sup>4)</sup>	10	200 <sup>4)</sup>	1.5	–	TO-92	VHF	
2N4220(A)	30	0.5	3	4.5	1.2	0.75	10	2.5 <sup>4)</sup>	–	TO-72	VHF, mix/osc	
2N4221(A)	30	2	6	4.5	1.2	0.75	20	2.5 <sup>4)</sup>	–	TO-72	VHF, mix/osc	
2N4222(A)	30	5	15	4.5	1.2	0.75	40	2.5 <sup>4)</sup>	–	TO-72	VHF, mix/osc	
PN4416	30	5	15	4 <sup>4)</sup>	0.8 <sup>4)</sup>	4.5	50 <sup>4)</sup>	–	–	TO-92	VHF	
PN4416A	35	5	15	4 <sup>4)</sup>	0.8 <sup>4)</sup>	4.5	50 <sup>4)</sup>	–	–	TO-92	VHF	
2N4416	30	5	15	4 <sup>4)</sup>	0.8 <sup>4)</sup>	4.5	50 <sup>4)</sup>	2.0	–	TO-72	VHF	
2N4416A	35	5	15	4 <sup>4)</sup>	0.8 <sup>4)</sup>	4.5	50 <sup>4)</sup>	2.0	–	TO-72	VHF	
2N5484	25	1	5	5 <sup>4)</sup>	1.0 <sup>4)</sup>	3.0	50 <sup>4)</sup>	4.0	–	TO-92	VHF	
2N5485	25	4	10	5 <sup>4)</sup>	1.0 <sup>4)</sup>	3.5	60 <sup>4)</sup>	4.0	–	TO-92	VHF	
2N5486	25	8	20	5 <sup>4)</sup>	1.0 <sup>4)</sup>	4.0	75 <sup>4)</sup>	4.0	–	TO-92	VHF	

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### N-CHANNEL JUNCTION FETS FOR AMPLIFIERS (CONTINUED)

type number	rating		characteristics							cut-off freq. (MHz)	package	application
	$\pm V_{DS}$ max. (V)	$I_{DSS}$ min. (mA)	$I_{DSS}$ max. (mA)	$C_{iss}$ typ. (pF)	$C_{rss}$ typ. (pF)	$ Y_{fs} ^{1)}$ min. (mS)	$g_{os}$ typ. ( $\mu$ S)	F typ. (dB)				
<b>SURFACE-MOUNT TYPES</b>												
BF510	20 <sup>3)</sup>	0.7	3	5 <sup>4)</sup>	0.3	2.5	60 <sup>4)</sup>	1.5	–	SOT23	VHF	
BF511	20 <sup>3)</sup>	2.5	7	5 <sup>4)</sup>	0.3	4	80 <sup>4)</sup>	1.5	–	SOT23	VHF	
BF512	20 <sup>3)</sup>	6	12	5 <sup>4)</sup>	0.3	6	100 <sup>4)</sup>	1.5	–	SOT23	VHF	
BF513	20 <sup>3)</sup>	10	18	5 <sup>4)</sup>	0.3	7	120 <sup>4)</sup>	1.5	–	SOT23	mixers	
BF545A	30	2.0	6.5	3	0.8	3	30	1.5	700	SOT23	DC, audio, VHF	
BF545B	30	6	15	3	0.8	3	30	1.5	700	SOT23	DC, audio, VHF	
BF545C	30	12	25	3	0.8	3	30	1.5	700	SOT23	DC, audio, VHF	
BF556A	30	3	7	3	0.8	4.5	30	–	–	SOT23	DC, audio, VHF	
BF556B	30	6	13	3	0.8	4.5	30	–	–	SOT23	DC, audio, VHF	
BF556C	30	11	18	3	0.8	4.5	30	–	–	SOT23	DC, audio, VHF	
BF861A	25	2	6.5	10 <sup>4)</sup>	2.5 <sup>4)</sup>	12	200 <sup>4)</sup>	–	–	SOT23	audio	
BF861B	25	6	15	10 <sup>4)</sup>	2.5 <sup>4)</sup>	16	250 <sup>4)</sup>	–	–	SOT23	audio	
BF861C	25	12	25	10 <sup>4)</sup>	2.5 <sup>4)</sup>	20	300 <sup>4)</sup>	–	–	SOT23	audio	
BFR30	25	4	10	4 <sup>4)</sup>	1.5 <sup>4)</sup>	1	40 <sup>4)</sup>	–	–	SOT23	gen. purpose	
BFR31	25	1.0	5	4 <sup>4)</sup>	1.5 <sup>4)</sup>	1.5	20 <sup>4)</sup>	–	–	SOT23	gen. purpose	
BFT46	25	0.2	1.5	5 <sup>4)</sup>	1.5 <sup>4)</sup>	1	10 <sup>4)</sup>	–	–	SOT23	gen. purpose	
PMBFJ308	25	12	60	5 <sup>4)</sup>	2.5 <sup>4)</sup>	8	150	1.5	–	SOT23	VHF	
PMBFJ309	25	12	30	5 <sup>4)</sup>	2.5 <sup>4)</sup>	10	150	1.5	–	SOT23	VHF	
PMBFJ310	25	24	60	5 <sup>4)</sup>	2.5 <sup>4)</sup>	10	150	1.5	–	SOT23	VHF	
PMBF4416	30	5	15	4 <sup>4)</sup>	0.8 <sup>4)</sup>	4.5	50	–	–	SOT23	VHF	
PMBF4416A	35	5	15	4 <sup>4)</sup>	0.8 <sup>4)</sup>	4.5	50	–	–	SOT23	VHF	
PMBF5484	25	1.0	5	5 <sup>4)</sup>	1 <sup>4)</sup>	3	50	4	–	SOT23	UHF, VHF	
PMBF5485	25	4	10	5 <sup>4)</sup>	1 <sup>4)</sup>	3.5	60	4	–	SOT23	UHF, VHF	
PMBF5486	25	8	20	5 <sup>4)</sup>	1 <sup>4)</sup>	4	75	4	–	SOT23	UHF, VHF	

1) at 1 kHz

2) at 10 kHz

3) asymmetrical

4) maximum value

5) battery-powered equipment

6) at 10 Hz

7) at 1 MHz

