

N-Channel MOSFET

	IRFP240	IRFP048	IRFP140PBF	IRFP150PBF	IRFP044N	IRFP140	IRFP3710	IRFP150	IRFP054NPBF	IRFP064NPBF	IRFP150NPBF	IRFP250MPBF	IPx600N25N3 G IPP600N25N3GXX SA1	IRF520	IRFP610	IRFP460A	IRFP450	IXTK 88N30P	IXTH80N075L2	FQH44N10	HUF75639G3	HUF75344G3	FDH3632	FDP3682
Voltage Vds	200	60	100	100	55	100	100	100	55	55	100	200	250	100	200	500	500	300	75	100	100	55	100	100
Current Id TC100°C	12	52	22	29	37	23	40	29	57	80	30	21	18	6,5	2,1	13	8,7	55	50	34	40	75	12	23
Rds on @10V Vgs	0,18	0,018	0,077	0,055	0,02	0,052	0,025	0,055	0,012	0,008	0,036	0,075	0,06	0,27	1,5	0,27	0,4	0,04	0,024	0,039	0,025	0,008	0,009	0,032
housing	TO-247AC	TO-247AC	TO-247AC	TO-247AC	TO-247AC	TO-247AC	TO-247AC	TO-247AC	TO-247AC	TO-247AC	TO-247AC	TO-247AC	TO-220AB	TO-220AB	TO-220AB	TO-247AC	TO-247AC	TO-247AC	TO-247AC	TO-247AC	TO-247AC	TO-247AC	TO-247AC	TO-220AB
forward transconductancs gfs (S)	6,9	20	9,8	13	16	11	20	13	30	42	14	17	47	2,7	0,8	11	9,3	60	30	31	?	?	?	?
input capacitance pF (Ciss)	1300	2400	1700	2800	1500	1400	3000	2800	2900	4000	1900	2159	2350	360	140	3100	2600	6300	3600	1400	2000	3200	6000	1250
output capac. pF (Coss)	400	1300	550	1100	500	330	640	1100	880	1300	450	315	149	150	53	480	720	950	935	425	500	1170	820	190
reverse transfer cap pF (Crss)	130	190	110	280	160	170	330	280	330	480	230	83	3	34	15	18	340	190	325	85	65	310	200	45
price	1,42	3,56	3,32	3,16	1,1	1,17	1,44	1,48	2,2	2,34	1,59	1,49	2,51	0,47	0,35	2,22	1,87	8,24	5,83	2,31	2,99	3,24	4,55	1,45
Where	reichelt	digikey	digikey	digikey	reichelt	reichelt	reichelt	reichelt	digikey	digikey	digikey	digikey	digikey	reichelt	reichelt	reichelt	reichelt	digikey	digikey	farnell	digikey	digikey	digikey	digikey
	vishay	vishay	vishay	vishay	IR	IR	IR	IR	IR	IR	infineon	infineon	infineon	vishay	vishay	vishay	vishay	IXYS	IXYS	mouser 2,1 on semi	on semi	on semi	on semi	on semi
	used in ACA				bought 17.5.2021	bought 17.5.2021									ACP+preamp			Lufo amp						
											bought 17.5.2021													<a href="https://www.diyaudio.com/forums/pass-labs/372679-lufo-amp-39w-se-class-28v-rail.html">https://www.diyaudio.com/forums/pass-labs/372679-lufo-amp-39w-se-class-28v-rail.html</a>

	C2M0280120D	C3M0120065D	C3M0160120D	C3M0120090D	C3M0065090D	C3M0350120D		G3R75MT12D	G3R160MT17D	G3R160MT12D	G3R350MT12D	SCT2280KEC	SJEP120R100
Voltage Vds	1200	650	1200	900	900	1200		1200	1200	1200	1200	120	1200
Current Id <b>TC100°C</b>	6	16	12	15	23	5,5		26	12	13	7	10	17
Rds on @10V Vgs	0,28	0,12	0,16	0,12	0,065	0,5		0,075	0,16	0,16	0,35	0,28	0,1
housing	TO-247AC	TO-247AC	TO-247AC	TO-247AC	TO-247AC	TO-247AC		TO-247AC	TO-247AC	TO-247AC	TO-247AC	TO-247AC	TO-247AC
forward transconductancs gfs (S)	2,8	5	5,2	8,9	16	2,9		9	4,6	4,4	2,1	1,4	x
input capacitance pF (Ciss)	259	640	632	414	760	345		1545	854	724	331	667	670
output capac. pF (Coss)	23	45	39	48	66	20		46	23	22	10	27	103
reverse transfer cap pF (Crss)	3	2,3	3	3	5	3,4		3,8	4,1	1,8	0,8	5	67
price	4,19		4,32		7,72								119 !!!
		6,91	8,32	9,63	12,86	5,44		8,63	9,33	5,48	3,97	8,99	
Where	digikey	digikey	digikey	digikey	digikey	digikey		digikey	digikey	digikey	digikey	digikey	
	Cree	Cree	Cree 4,63	Cree	Cree	Cree		GeneSIC	GeneSIC	GeneSIC	GeneSIC	ROHM	Semisouth
	silicon Carbide	silicon Carbide	silicon Carbide	silicon Carbide	silicon Carbide	silicon Carbide		silicon Carbide	silicon Carbide	silicon Carbide	silicon Carbide		silicon Carbide

<https://www.diyaudio.com/forums/pass-labs/328357-aca-amp-premium.html>

Rds(on) has little effect. **Input capacitance and the Gate stoppers** have a much bigger influence on THD above 5KHz or so. **More capacitance equals more THD.**  
<https://www.diyaudio.com/forums/pass-labs/328357-aca-amp-premium-58.html#post6551818>

**Transconductance is an expression** of the performance of a bipolar transistor or field-effect transistor (FET). In general, the larger the **transconductance** figure for a device, the greater the gain(amplification) it is capable of delivering, when all other factors are held constant.

<https://www.diyaudio.com/forums/pass-labs/328357-aca-amp-premium-68.html#post6675745>

As a general rule, **a higher transconductance will lower the output impedance**, although not as much as you might like. This will **reduce the effect of any ripples in the speaker's impedance plot**, usually around a crossover point(s).  
A lower **Ciss will lower THD above 3KHz or so**. When I started using IRF520s, (original 19V version) I had to dial up my tweeter control a couple of notches. Overall I'd say the amp sound mellower, but this may not be to your liking depending on you speaker and source material. **Coss probably has minimal effect unless really high**.  
One experiment I probably don't have time for: use multiple (low Ciss) devices in parallel for Q1 and Q2 with separate (matched) Q4s for each (matched) Q1.  
What device has the lowest Ciss for a reasonable transconductance and power capability ?