Q17-Mini 3.0 Power Transistors Selection Table

Pair of transistors for the driver stage.

Q7 v1.4.4

Original config

Minimum Vds = 150V, same Vgs(th) range (4V), close transductance (Gfs)

wiinimum va	is = 150V, same	vgs(tn) range (4																		Q7 V1.4.	+
				lefault confi	ig				Cacı	ulated (RCi	iss filter)		Final res	istor valu	ies (scope)						
DEFAULT	Statu	s Parts	Qg nC	Gfs Sie	Ciss pF R	R7	R8	Freq MHz	R7	R8	Freq MHz	R7	F	88	Freq MHz				OK	Comment	
Config D1 Q5	P EOL	FQP3P20	6	1.23	190	100		8.38	104.7	7	8		100		8					0.1.1.0	
06	N EOL	FQP3N30	7	1.75	75		100	21,22		265,25	5 8			120	8				Yes	Original config	
40											-				-						_
TECTED OV	1 1 61-1	. 15	00	00.00	C		100	F		Inc			-		F		1	1	01/		-
TESTED OK	Statu	s Parts	Qg nC	Gfs Sie	Ciss pF R	₹7	K8	Freq MHz	R7	R8	Freq MHz	R7		(8	Freq MHz				OK	Comment	
onfig D2 Q5	Р	FQPF7P20	25	3.5	770	100		2,06	93,95	5	2,2		100		2,2				Yes		
Q6	N EOL	2SK3564	17	2.6	700		100	2,27		103,34	4 2,2			100	2,2				103		
																					_
TESTED	Statu	s Parts	Qg nC	Gfs Sie C	Ciss pF R	R7	R8	Freq MHz	R7	R8	Freq MHz	R7	F	R8	Freq MHz				OK	Comment	7
onfig D3 Q5	D	FQPF7P20	25	3.5	770	100		2.06	93.95		2.2		100		2.2						
	P P			3.3		100		-,	33,33	100 55	2,2	 	100						Yes	0 1 1 11 6 00	=
Q6	N	FQPF3N80C	16.5	3	705		100	2,25		108,55	5 2,2			100	2,2					Overshoot with config S2.	」
																					=
TESTED	Statu	s Parts	Qg nC	Gfs Sie	Ciss pF R	R7	R8	Freq MHz	R7	R8	Freq MHz	R7	F	88	Freq MHz				OK	Comment	
onfig D4 Q5	Р	IRF9610	11	0.9	170	100		9,36	98,54	Į.	9,5		100		9						
Q6	N	IRF610	8.2	0.8	140		100	11,36		119,66	9.5			100	9				Yes		1
								/			-,-	·									_
CANDIDATE	Chah	- Davida	00	Cf- Ci-	Cian at D	17	no.	F NALL-	D.7	no.	Cons Malle	R7	- 1-	10	F NALL-				01/	[c	7
CANDIDATE		s Parts			Ciss pF R		R8	Freq MHz		R8	Freq MHz	K/		88	Freq MHz				UK	Comment	
Q5	P	IRFI9620G	15		340	100		4,68	99,59		4,7										₫
Q6	N	IRFI620G	14	1.5	260		100	6,12		130,24	4,7										
																					_
											Pair of transist	ors for the	e outnut	ctage							
Minimum 1/4	tc = 150V com-	Vgs(th) range (4	1\/\ closs	transducts	nco (Cfc) -	nd Oa				'	01 (10113131	101 111	- Juiput	Juge.							
							D45	F 1/1:	D4.0	D45	P			145	P 1911	D40 D10 (7)	T115 4	CAID IS	6		e transcription
DEFAULT	Statu		Qg nC	Gfs Sie	e.ee p	R14	R15	Freq KHz	R14	R15	Freq KHz	R14	4 F	R15	Freq KHz	R10-R13 (R)	THD %	SNR -dBuA	OK	Comment	Subjective sound review
onfig S1 Q15	N	FQA46N15	110	36	2500	330		192,92	335,06)	190		330		190	9.1	0,011	90,9	Yes	Original config	Good sound.
Q16	P n.a	FQA36P15	105	19.5	2550		330	189,13		328,49	9 190			330	190	3.1				Original coming	Well balanced sound.
																				<u> </u>	<u> </u>
TESTED	Statu	s Parts	Qg nC	Gfs Sie	Ciss pF R	R14	R15	Freg KHz	R14	R15	Freq KHz	R14	4 F	R15	Freq KHz	R10-R13 (R)	THD %	SNR -dBuA	ОК	Comment	Subjective sound review
onfig S2 Q15	N	FQA46N15	110		2500	330		192,92	335,06	;	190		330		190	, ,	0,017	88,2		Q14=3.6V, Q16=-3.8V - Bad spectrum.	Good sound.
Q16	P	IXTH48P20P	103		5400	330	330		333,00	155,12		 	330	150		9.1	0,017	00,2	No	With R10/R13=8R2 consume 400mA.	Low frequency drier than S5.
Q16	P	IXTH48PZUP	103	32	5400		330	89,31	_	155,12	2 190			150	190					With R10/R13=8R2 consume 400mA.	Low frequency drief than 55.
									_		•										1
TO TEST	Statu	s Parts	Qg nC	Gfs Sie C	Ciss pF R	R14	R15	Freq KHz	R14	R15	Freq KHz	R14	4 F	R15	Freq KHz	R10-R13 (R)	THD %	SNR -dBuA	OK	Comment	Subjective sound review
onfig S3 Q15	N	IXTQ50N20P	70	23	2720	330	l	177,31	307,96	5	190					0.1				48v max.	
Q16	Р	IXTQ52P10P	60	20	2845		330	169,52		294,43	3 190					9.1					
1,3								,				l								JI .	1
TESTED	Statu	s Parts	Oc. nC	Gfs Sie	Ciss pF R	R14	R15	Freg KHz	R14	R15	Freq KHz	R1	4 6	R15	Freq KHz	R10-R13 (R)	THD %	SNR -dBuA	ОК	Comment	Subjective sound review
	Statu		70	dis sie		114	KIJ			KIJ	ried Kiiz	K.D.	274	113		K10-K13 (K)			OK		
config S4 Q15	N	IXTQ36N30P	, 0	22	2250	330		214,35	372,29	,	190		3/4		190	8.2	0,022	87.2 dB	No	Q14=3.6V, Q16=-3.8V	Good sound.
Q16	Р	IXTQ36P15P	55	19	3100		330	155,57		270,21	1 190			270	190					With R10/R13=9R1 ou 8R2 - Bad spectrum.	Low frequency less controlled th
TESTED OK	Statu	s Parts	Qg nC	Gfs Sie	Ciss pF R	R14	R15	Freq KHz	R14	R15	Freq KHz	R14	4 F	R15	Freq KHz	R10-R13 (R)	THD %	SNR -dBuA	ОК	Comment	Subjective sound review
onfig S5 Q15	N	FOA46N15	110	36	2500	330		192,92	335.06	5	190		330		190		0,011	91,1		Q15/Q16 well balanced (3.6V).	Good sound.
016	D	IXTO360150	55	10	2100		220	155.57		270.21	1 100			220	295	8.2	-,	,-	Yes	With R10/R13=8R2 Good spectrum	Well balanced sound.
QIU	г	IXTQ30F13F	33	15	3100		330	133,37		270,21	190			330	283					With K10/K13-8K2. Good spectrum.	Well balanced sound.
	T 1	1		Tar at E						1	I				I			I I		T ₊	7
CANDIDATE		s Parts			Ciss pF R		R15	Freq KHz		R15	Freq KHz	R14	4 F	R15	Freq KHz	R10-R13 (R)	THD %	SNR -dBuA	OK	Comment	4
Q15	N	IXTQ50N20P	70		2720	330		177,31	307,96	5	190					9.1					
Q16	P	IXTQ36P15P	55	19	3100		330	155,57		270,21	1 190		T			3.1					
•								i													_
CANDIDATE	Statu	s Parts	Og nC	Gfs Sie	Ciss pF R	R14	R15	Freq KHz	R14	R15	Freq KHz	R14	4 1	R15	Freq KHz	R10-R13 (R)	THD %	SNR -dBuA	OK	Comment	٦
		IXFH50N85X			4480				186,97			H 1,11			cq Kiiz	(N)	1110 /8	J. TR - GDUA	O.K		┥
Q15	N		152			330		107,65	186,97		190	\vdash			 	9.1		-			4
Q16	Р	IXTH48P20P	103	32	5400		330	89,31		155,12	2 190				L					1	_
																					_
CANDIDATE	Statu	s Parts	Qg nC	Gfs Sie	Ciss pF R	R14	R15	Freq KHz	R14	R15	Freq KHz	R14	4 F	R15	Freq KHz	R10-R13 (R)	THD %	SNR -dBuA	ОК	Comment	
Q15	N	IRFP240	70		1300	330		370,99	644,35	5	190					0.5					7
Q16	Р	IRFP9240	44		1200		330			698,04	4 190					9.1					7
420							550	.02,50	_	030,0	., 150				1					<u> </u>	⊒
CIM NOT WO	DENING C+-+	c Dorte	00.00	Cfc Cio	Cisc pE In	21/	D1E	Eroa VUz	D14	D1E	Eron VIII	D4	4 le)1E	Eron VIII	D10 D12 /D\	THD 0/	CND dDA	OV	Commont	7
	ORKING Statu		Qg nC	GIS SIE (Ciss pF R		R15	Freq KHz	R14	R15	Freq KHz	R14	•	R15	Freq KHz	VTO-KT2 (K)	שטחו %	SNR -dBuA	UK	Comment	╡
Q15	N	ECX10N20		1	500	330		964,57	1675,31		190				ļ	9.1					4
Q16	P	ECX10P20		1.5	500		330	964,57		1675,31	1 190										_
SIM NOT WO	ORKING Statu	s Parts	Qg nC	Gfs Sie	Ciss pF R	R14	R15	Freq KHz	R14	R15	Freq KHz	R14	4 F	R15	Freq KHz	R10-R13 (R)	THD %	SNR -dBuA	ОК	Comment	1
Q15	N N	ECW20N20	1	R	900	330		535,87	930,73		190		- f		1		<u> </u>				7
		ECW20N20		2	1850	330	330		330,73	452,78					1	9.1		1		1	┪
016	D		1	3	1920		330	207,93		452,/8	190	i I			1		<u> </u>	1		1	1
Q16	Р	LCVV ZOF ZO					•														
Q16	Р	LCWZOFZO																			_
										Pa	ir of transistor	s for op-a	mp powe	er supply							_
Minimum Vd	ds = 60V, same \	/gs(th) range (4)	/)							Pa		s for op-a	mp powe	er supply							_
	ds = 60V, same \			Gfs Sie	Ciss pF R	R40	R41	Freq MHz	R40	Pa	ir of transistor	s for op-a		er supply	Freq MHz				OK	Comment	- 1