

# TGM8 Amplifier

## Bill of Materials

24 November, 2013

Reference Name	Qty	Component/Value	Package	Description	Digikey Part No.
Q1, Q2, Q12, Q13, Q15	5	2N5551	TO-92	TRANS NPN SS GP 0.6A 160V TO-92	2N5551GOS-ND
Q3, Q17	2	2N5401	TO-92	TRANS SS PNP 150V 600MA TO-92	2N5401GOS-ND
Q4, Q7	2	BD140	TO-126	TRANSISTOR PNP SOT-32	497-6657-5-ND
Q5, Q6	2	BD139	TO-126	TRANSISTOR NPN SOT-32	497-6656-5-ND
Q8 (optional; only needed for high power version)	1	IRFP9240	TO-247	MOSFET P-CH 200V 12A TO-247AC	IRFP9240PBF-ND
Q9 (optional; only needed for high power version)	1	IRFP240	TO-247	MOSFET N-CH 200V 20A TO-247AC	IRFP240PBF-ND
Q10	1	2SA1943  (alternatives: MJL4302, MJL1302 or MJL21193)	TO-247	TRANS PNP -230V -15A TO-3PL	2SA1943-OQ-ND
Q11	1	2SC5200  (alternatives: MJL4281, MJL21194 or MJL3281)	TO-247	TRANS NPN 230V 15A TO-3PL	2SC5200-OQ-ND
Q14, Q16	2	NMOS-TO220	TO-220		
D1, D2, D3, D4, D5, D6, D7	7	12V Zener	SOD-123	DIODE ZENER 12V 500MW SOD123	BZT52C1213-FDICT-ND
LD1	1	LED Dual	Radial - 3 Leads	LED 3MM BI-COL RED/GRN DIFF TH	160-1939-ND
OPTO	1	TLP190B	4-MFSOP6	OPTOCOUPLER PHOTOVO 6SOIC	TLP190BF-ND
C-INPUT	1	10uF bipolar	Radial, Can	Nichicon VP 16V	UVP1C100MDD-ND
C1	1	330p	C1206	Kemet 50V NP0 5%	399-8186-1-ND
C2	1	470u 16V Audio	Radial, Can	Nichicon HE 16V	493-1522-ND
C3, C4	2	33p NP0	C1206	Kemet 50V NP0 5%	399-1199-1-ND
C5	1	420p NP0	C1206	N/A	N/A
C6, C19	1	47u 16V	Radial, Can	Nichicon HE 25V	493-1547-ND
C7, C8	2	100u 50V Nichicon Muse	E3,5-8 (resize pad)	Nichicon HE 50V	493-1605-ND
C9, C10, C12, C13	4	100p NP0	C1206	Kemet 50V NP0 5%	399-1205-1-ND
C11, C17, C18	3	100n	C1206 (resize pad)	Kemet 100V X7R 10%	399-1249-1-ND
C14, C15	2	1u Film or 47u Electro	E5-10,5		
C16	1	47uF bipolar	E2,5-6	Nichicon VP 16V	493-6080-ND
C20, C21, C22, C23	4	4700uF Low power – 50V High power – 63V	Radial, Can E10-22	Nichicon LS	493-6161-ND (50V) 493-7290-ND (63V)
R1	1	750R	R1206	Vishay Dale 1/4W 1%	541-750FCT-ND
R2, R32	2	27k	R1206	Vishay Dale 1/4W 1%	541-27.0KFCT-ND
R3, R19	1	10R 1W	2.5x6.5mm	Vishay BC 1W 5%	10WCT-ND
R4, R5, R7, R13, R34, R36	3	1k	R1206	Vishay Dale 1/4W 1%	541-1.00KFCT-ND

R6	1	1k5	R1206	Vishay Dale 1/4W 1%	541-1.50KFCT-ND
R8	1	470k (optional)	R1206	Vishay Dale 1/4W 1%	541-470FCT-ND
R9	1	560R	R1206	Vishay Dale 1/4W 1%	541-560FCT-ND
R10	1	27k 1W	2.5x6.5mm	Vishay BC 1W 5%	PPC27KW-1CT-ND
R11	1	8k2	R1206	Vishay Dale 1/4W 1%	541-8.25KFCT-ND
R12	1	4k7	R1206	Vishay Dale 1/4W 1%	541-4.70KFCT-ND
R14	1	3k9	R1206	Vishay Dale 1/4W 1%	541-3.90KFCT-ND
R15	1	3k9 1W		Vishay BC 1W 5%	PPC3.9KW-1CT-ND
R16, R17, R18	3	100R	R1206	Vishay Dale 1/4W 1%	541-100FCT-ND
R20, R23	1	220R	R1206	Vishay Dale 1/4W 1%	541-220FCT-ND
R21	1	150R	R1206	Vishay Dale 1/4W 1%	541-150FCT-ND
R22	1	180R	R1206	Vishay Dale 1/4W 1%	541-182FCT-ND
R24, R27	1	10R	R1206	Vishay Dale 1/4W 1%	541-10.0FCT-ND
R25, R26, R28, R29, R39	2	47R	R1206	Vishay Dale 1/4W 1%	541-47.0FCT-ND
R30, R31, R40, R41	2	0R33 3-5W		Yageo 3W 5% Wirewound	0.33AECT-ND
R33	1	10k	R1206	Vishay Dale 1/4W 1%	541-10.0KFCT-ND
R35	1	560k	R1206	Vishay Dale 1/4W 1%	541-560KFCT-ND
R37	1	5k1 1W	2.5x6.5mm	Vishay BC 1W 5%	PPC5.1KW-1CT-ND
R38	1	68k	R1206	Vishay Dale 1/4W 1%	541-68.0KFCT-ND
RZ1	1	100k	R1206	Vishay Dale 1/4W 1%	541-102KFCT-ND
VR1	1	25k	9.5x4.8mm	Bourns Trimpot 3296 series, 10%, 25 turn	3296X-253LF-ND
VR2	1	2k	9.5x4.8mm	Bourns Trimpot 3296 series, 10%, 25 turn	3296X-202LF-ND
+V, -V, GND, SPKR	4	QUICKFIT PIN	6.35mm	TE Connectivity Faston	A100452CT-ND
F1, F2	2	5A fast blow	2AG, 5x15mm	Littelfuse 2AG	F4589-ND
F1_holder, F2_holder	2	Fuse clip	2AG	Littelfuse clip	F4189-ND
SIGNAL	1	Terminal Block	0.100"	TE Connectivity	A98333-ND