



MINMAX[®]

MKZI20 Series - Railway Note

MKZI20 Series - EN 50155 Note

External Filter meets Interruption, criteria A

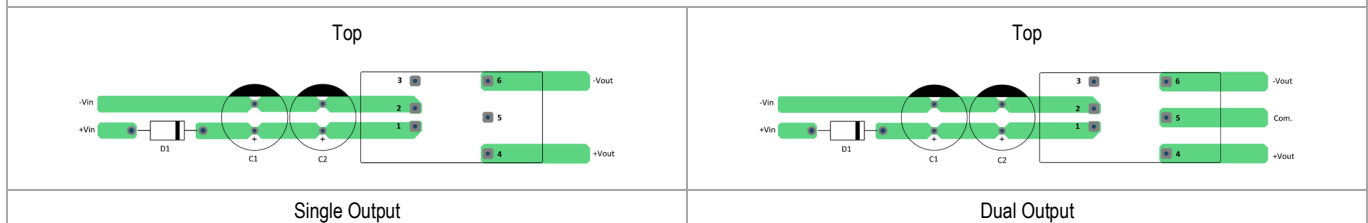


Model	D1	C1
MKZI20-24XXX	1N5408	3300μF/50V TDK B41231 Series

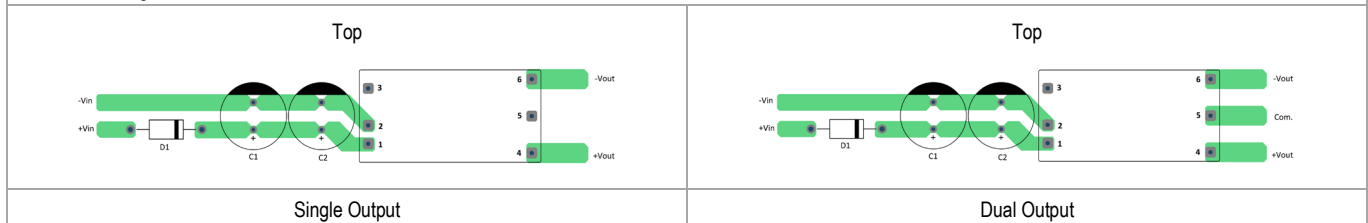
Model	D1	C1, C2
MKZI20-48XXX MKZI20-110XXX	1N5408	390μF/200V CHEMI-CON KXJ Series

Recommended PCB Layout with External Filter

Standard



With "A" Pinning



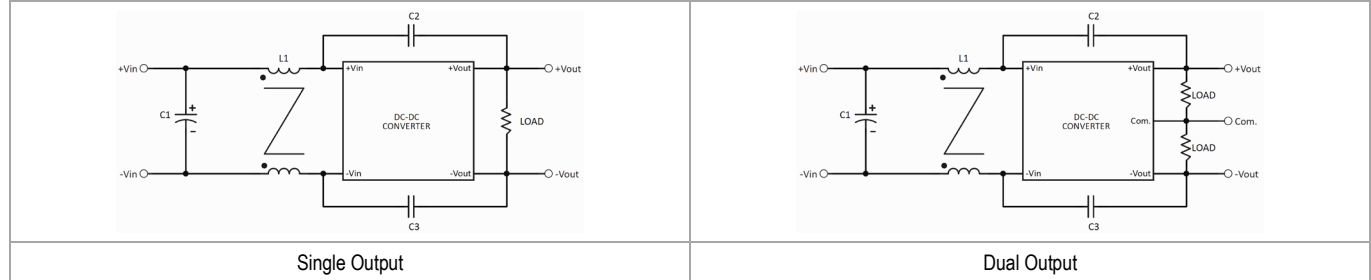


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MKZI20 Series - EMC Note

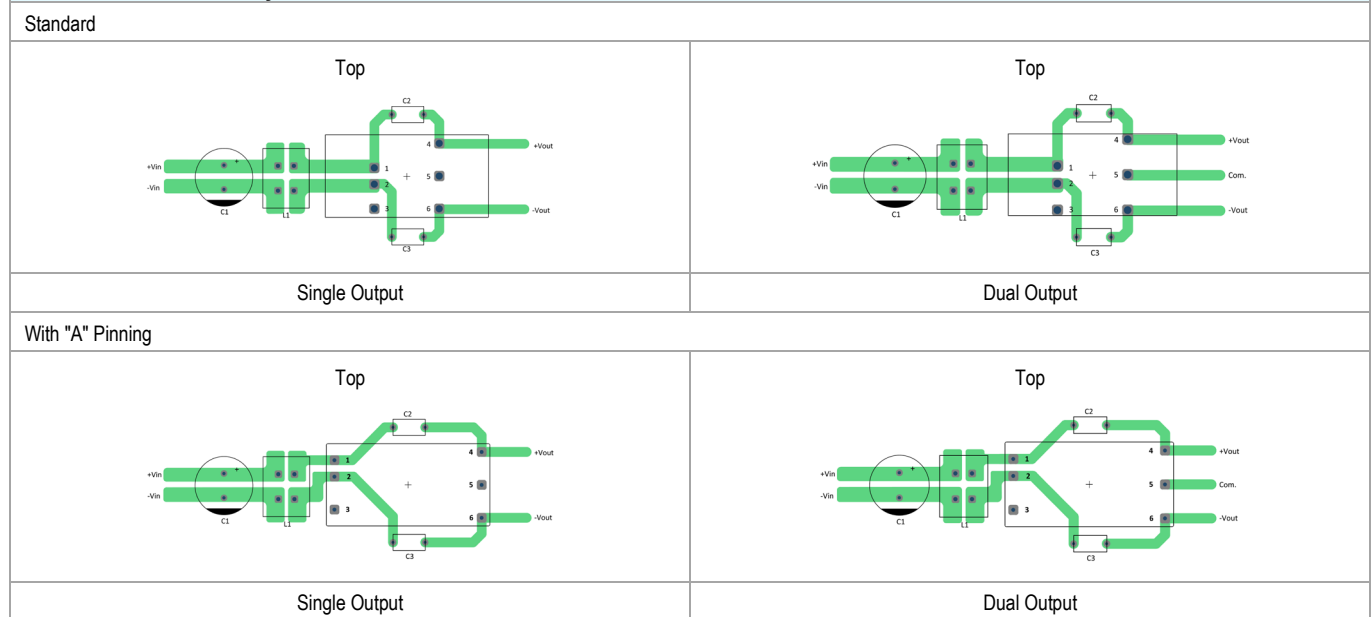
MKZI20 Series - EMC Note

External Filter meets Radiation (for Surge & EFT Filter) EN 55032/11, class A



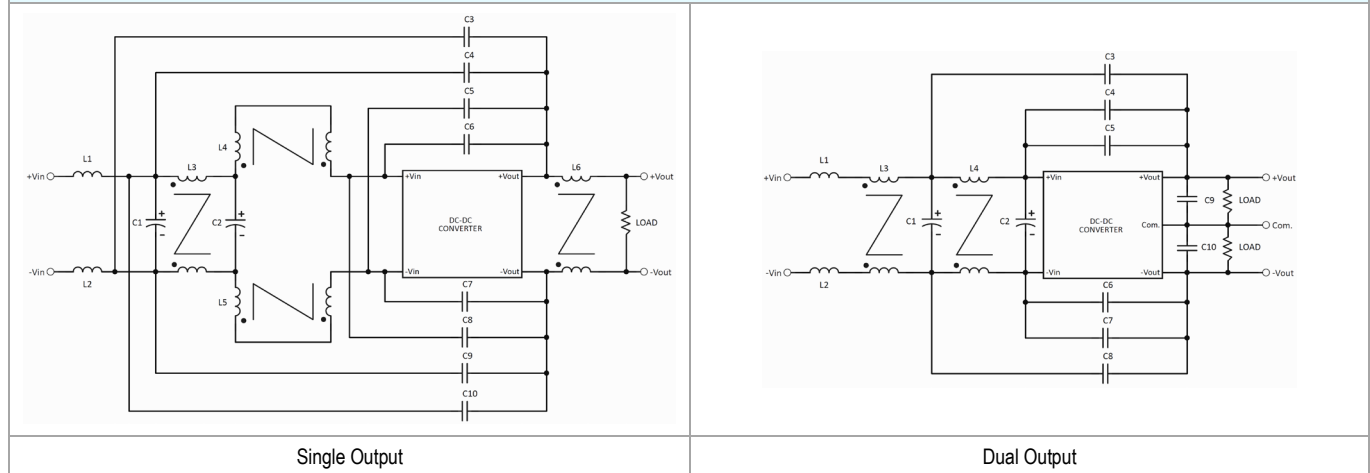
Model	Surge & EFT	Radiation Class A	
	C1	L1	C2, C3
MKZI20-24XXX	390µF/63V CHEMI-CON KY Series	0.175mH/10A 74482210002	2200pF/250Vac/Y5U Y1 Cap. YU0AH222M090
MKZI20-48XXX	330µF/100V CHEMI-CON KY Series	0.175mH/10A 74482210002	2200pF/250Vac/Y5U Y1 Cap. YU0AH222M090
MKZI20-110XXX	390µF/200V CHEMI-CON KXJ Series	0.175mH/10A 74482210002	2200pF/250Vac/Y5U Y1 Cap. YU0AH222M090

Recommended PCB Layout with External Filter



MKZI20 Series - EMC Note

External Filter meets EMI Total solution (for Surge & EFT Filter) EN 55032, class B



Model	L1, L2	C1	L3	C2, C3, C5, C8, C10, L4, L5, L6	C4, C9	C6, C7
MKZI20-24SXX	580Ω/5A 7427512	390μF/200V CHEMI-CON KY Series	0.175mH/10A 74482210002	---	1500pF/250Vac/Y5U Y1 Cap. YU0AH152M120	2200pF/250Vac/Y5U Y1 Cap. YU0AH222M090

Model	L1, L2	L3, C2, C4, C7, C9, C10	C1	L4	C3, C8	C5, C6
MKZI20-24DXX	580Ω/5A 7427512	---	390μF/200V CHEMI-CON KY Series	0.175mH/10A 74482210002	1500pF/250Vac/Y5U Y1 Cap. YU0AH152M120	2200pF/250Vac/Y5U Y1 Cap. YU0AH222M090

Model	L1, L2	C1	L3, L6	C2, C3, C5, C8, C10, L4, L5	C4, C9	C6, C7
MKZI20-48SXX	580Ω/5A 7427512	390μF/200V CHEMI-CON KY Series	0.175mH/10A 74482210002	---	1500pF/250Vac/Y5U Y1 Cap. YU0AH152M120	2200pF/250Vac/Y5U Y1 Cap. YU0AH222M090

Model	L1, L2	L3, C2	C1	L4
MKZI20-48DXX	580Ω/5A 7427512	---	390μF/200V CHEMI-CON KY Series	32μH/8.5A 744842932
	C3, C8	C4, C7	C9, C10	C5, C6
	1000pF/250Vac/Y5U Y1 Cap. YP0AH102K100	100pF/250Vac/Y5U Y1 Cap. YP0AH101K060	100pF 1206 X7R	2200pF/250Vac/Y5U Y1 Cap. YU0AH222M090

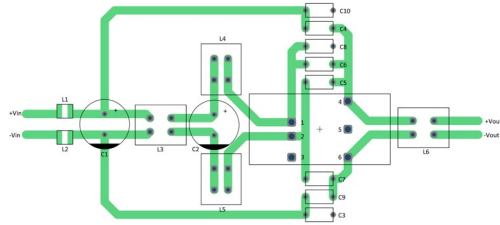
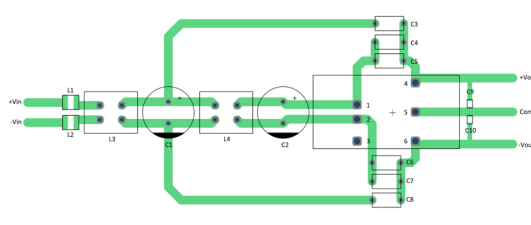
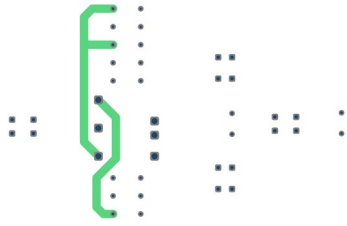
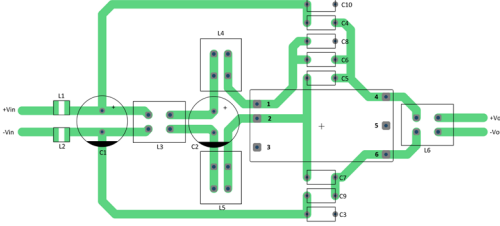
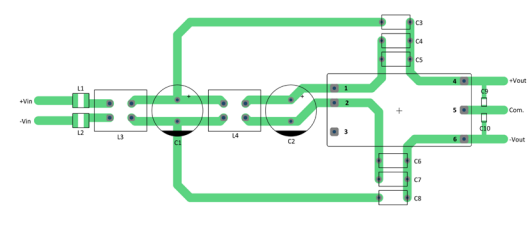
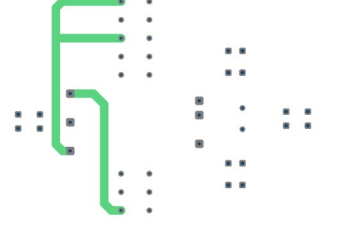
MKZI20 Series - EMC Note

Model	L1, L2	C1	L3	C2, C3, C5, C8, C10, L4, L5, L6	C4, C9	C6, C7
MKZI20-110S05 MKZI20-110S12 MKZI20-110S24	580Ω/5A 7427512	390μF/200V CHEMI-CON KY Series	110μH/3A 744842311	---	1500pF/250Vac/Y5U Y1 Cap. YU0AH152M120	4700pF/250Vac/Y5U Y1 Cap. YU0AH472M130

Model	L1, L2	C1, C2	L3	L4, L5	C3, C10
MKZI20-110S15	580Ω/5A 7427512	390μF/200V CHEMI-CON KY Series	110μH/3A 744842311	16μH/10A 7448421016	1000pF/250Vac/Y5U Y1 Cap. YP0AH102K100
	C4, C9	C5, C8	C6, C7	L6	
	4700pF/250Vac/Y5U Y1 Cap. YU0AH472M130	220pF/250Vac/Y5U Y1 Cap. YP0AH221K060	2200pF/250Vac/Y5U Y1 Cap. YU0AH222M090	---	

Model	L1, L2	C1	L3	C2
MKZI20-110DXX	580Ω/5A 7427512	390μF/200V CHEMI-CON KY Series	1mH/2A 744821201	47μF/400V CHEMI-CON KY Series
	L4	C3, C8	C4, C7, C9, C10	C5, C6
	0.175mH/10A 74482210002	1500pF/250Vac/Y5U Y1 Cap. YU0AH152M120	---	3300pF/250Vac/Y5U Y1 Cap. YU0AH332M120

MKZI20 Series - EMC Note

Recommended PCB Layout with External Filter			
Standard			
Top 		Top 	
Bottom 		Bottom 	
Single Output		Dual Output	
With "A" Pinning			
Top 		Top 	
Bottom 		Bottom 	
Single Output		Dual Output	