



Telephone Coupling Transformers

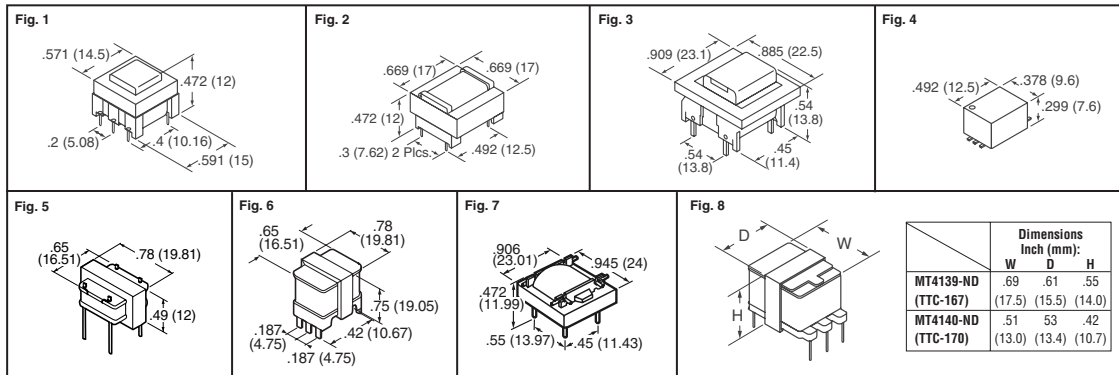


UL1950 3rd Edition Safety Approval:

(Additional Safety Agency approvals may apply, UL60950/EN60950, see data sheet for qualifications): This product meets the UL 1950 standard in telecom agency safety ratings, this implies that they meet new creepage and clearance distance requirements of the telecommunication industry and safety agencies. **UL #E208555**

UL 1459 Safety Approval:

UL1459 is a trusted safety standard for interconnecting data/ voice communication lines and other isolation designs. • **Frequency Response:** 300 - 3,500Hz ±0.5dB • **Impedance Matching:** ±10% **UL1459, FFC part 68, File #138028**
Note: Drawings show maximum number of pins, actual parts may have fewer pins



Schematics

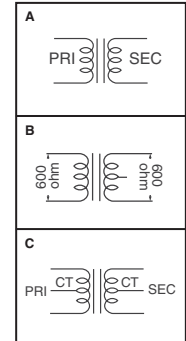


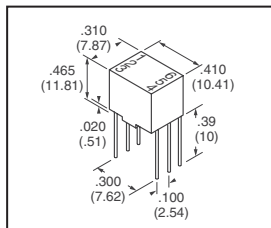
Fig.	Impedance (Ω)		IDC Bias (mA)	Insertion Loss (dB)†	Schematic	Pinout		Dielectric Strength Vrms (Pri./Sec.)	Digi-Key Part No.	Price Each			Tamura Part No.
	Primary	Secondary				Primary	Secondary			1	10	25	
UL1950 3rd Edition Safety Approval													
1	600	600	0	1.50	A	1Δ-3	4-6Δ	1,875	MT7207-ND	4.55	3.64	2.92	TTC-5017
2	600	600	0	1.00	A	1-3Δ	4Δ-6	1,875	MT7213-ND	6.10	4.88	3.91	TTC-5029
3	600	301	65	3.75	A	1Δ-2	3-4Δ	1,875	MT7236-ND	3.50	2.80	2.24	TTC-5020
4	10K	10K	0	0.88§	A	1Δ-3	4-6Δ	1,875	MT7215CT-ND†	3.84	3.54	2.95	TTC-5033
UL1459 Safety Approval													
5	600	600	0	1.0	A	1-3Δ	4-6Δ	1,500	MT4112-ND	6.63	5.30	4.24	T1104
	600	600	0	1.2	A	1-3	4-6Δ	1,500	MT4133-ND	6.75	5.40	4.32	TTC-02
	600	600	90	2.0	A	1-3Δ	4-6Δ	1,500	MT4134-ND‡	5.70	4.56	3.65	TTC-105
	600	600CT	90	2.0	B	1-3	4-5CT-6Δ	1,500	MT4135-ND‡	5.20	4.16	3.33	TTC-105-1
	600CT	600CT	0	1.2	C	1Δ-2CT-3	4Δ-5CT-6	1,500	MT4136-ND	6.08	4.86	3.89	TTC-108
7	600	470	100	2.5	A	1-2Δ	3Δ-4	1,500	MT4123-ND	3.43	2.74	2.20	TTC-264
8	10K	10K	0	1.4	A	1-3Δ	4-6Δ	1,000	MT4139-ND‡	6.15	4.92	3.94	TTC-167
	600	600	0	1.7	A	1-3Δ	4-6Δ	1,500	MT4140-ND‡	6.65	5.32	4.26	TTC-170

‡ Typical insertion loss (IL) in dB @ rated unbalanced mA DC, 0dBm and 1kHz Δ Denotes start of a winding † Cut Tape § Insertion Loss is tested @ 2KHz ‡ Has a 4-pin configuration

Encapsulated Transformers — MIL-T-27 Type

Telecom, Input, Interface, Isolation and Output Impedance Matching

Specifications: • Operating Frequency: 0.3 - 100kHz • Frequency Response: see datasheet • Operating Temperature: 105°C Max. • Withstand Voltage: 500Vrms (few models do meet 1kVrms, see datasheet) • FCC Part 68 Models available



Pin configurations vary, see datasheet

Matching Impedance Primary : Secondary	Primary \$ (mA DC)	Max. Power @ 300Hz (mW)	Pin Location		Digi-Key Part No.	Price Each			Tamura Part No.
			Primary	Secondary		1	10	25	
200kCT : 1kCT	0.00	10	1-2CT-3	4-5CT-6	MT4143-ND◆	13.88	11.10	8.88	MET-01
25kCT : 1kCT	0.50	30	1-2CT-3	4-5CT-6	MT4144-ND◆	14.15	11.32	9.06	MET-05
10kCT : 10kCT	1.00	40	1-2CT-3	4-5CT-6	MT4145-ND◆	13.28	10.62	8.50	MET-09
10kCT : 2kCT	1.00	40	1-2CT-3	4-5CT-6	MT4146-ND◆	13.38	10.70	8.56	MET-11
10kCT : 500CT	1.00	40	1-2CT-3	4-5CT-6	MT4147-ND◆	13.88	11.10	8.88	MET-17
1.6kCT : 3.2	2.50	65	1-2CT-3	4-6	MT4148-ND◆	11.70	9.36	7.49	MET-23
1k : 50	3.00	50	1-3	4-6	MT4149-ND◆	10.70	8.56	6.85	MET-28
900CT : 600	3.00	50	1-2CT-3	4-6	MT4150-ND	12.55	10.04	8.04	MET-29
600CT : 600CT	3.00	50	1-2CT-3	4-5CT-6	MT4111-ND◆	12.65	10.12	8.10	MET-31
600 : 600CT†	3.00	50	1-2	3-4/5-6	MT4151-ND◆	12.15	9.72	7.78	MET-32
600CT : 8	4.50	50	1-2CT-3	4-6	MT4153-ND◆	11.58	9.26	7.41	MET-35
500 : 500CT†	3.00	50	1-2	3-4/5-6	MT4154-ND	9.78	8.81	7.83	MET-38
500 : 50	3.00	50	1-3	4-6	MT4155-ND◆	10.88	8.70	6.96	MET-39
150 : 12	10.00	50	1-3	4-6	MT4156-ND	11.53	9.22	7.38	MET-42
600 : 600	3.00	50	1-3	4-6	MT4110-ND	11.00	8.80	7.04	MET-46
600 : 600CT	3.00	50	1-2	3-4/5-6	MT4152-ND◆	12.50	10.00	8.00	MET-59
MU Metal Shield, MET Series, Slip-On Can					MT4157-ND◆	7.25	5.80	4.64	METC-99

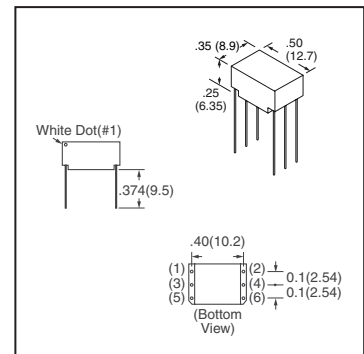
◆ RoHS Compliant † CT-Winding can be connected as a center tapped winding or as two isolated windings. Δ Has special pinout § PRI mA DC-Primary maximum rated unbalanced current in milli-amps, DC.

Encapsulated Pulse Transformers Isolation and Data Interface

Specifications: • Average Power Rating (40°C Rise): 500mW • Dissipation Rating: 150mW • Peak Pulse Voltage: 100V • Dielectric Strength: DC500V 1 minute • Insulation Resistance: DC500V 10000MΩ minimum

Primary Inductance mH (min.)	Primary ET Product μS (min.)	Rise Time ns (max.)	Pin Out			Turns Ratio (±5%) Pri : Sec : Ter	Digi-Key Part No.	Price Each			Tamura Part No.
			Primary	Secondary	Tertiary			1	10	25	
4.50	25.0	10.5	1, 2	3, 4	5, 6	1 : 1 : 1	MT4201-ND◆	9.35	7.48	5.99	G500
0.50	8.5	5.3	1, 2	3, 4	5, 6	1 : 1 : 1	MT4203-ND	13.53	10.82	8.66	G502
0.20	5.0	4.2	1, 2	3, 4	5, 6	1 : 1 : 1	MT4204-ND◆	6.48	5.18	4.15	G503
0.05	5.2	5.6	1, 2	3, 4	5, 6	1 : 1 : 1	MT4205-ND	4.63	3.70	2.96	G504
5.00	25.0	16.0	1, 2	3, 4	5, 6	2 : 1 : 1	MT4210-ND◆	12.58	10.06	8.05	G505
1.60	16.0	11.0	1, 2	3, 4	5, 6	2 : 1 : 1	MT4211-ND◆	10.03	8.02	6.42	G506
0.40	8.5	5.6	1, 2	3, 4	5, 6	2 : 1 : 1	MT4212-ND◆	7.43	5.94	4.76	G507
2.00	16.0	8.2	1, 3ct, 5	2, 4ct, 6	—	1ct : 1ct	MT4207-ND◆	6.80	5.44	4.36	G508
0.50	8.5	5.3	1, 3ct, 5	2, 4ct, 6	—	1ct : 1ct	MT4208-ND◆	6.35	5.08	4.07	G509
2.00	16.0	11.0	1, 3ct, 5	2, 4ct, 6	—	2ct : 1ct	MT4213-ND◆	7.55	6.04	4.84	G512
1.20	10.0	5.3	1, 2	3, 4	5, 6	1 : 1 : 1	MT4206-ND◆	7.75	6.20	4.96	G513
0.20	5.0	3.2	1, 3ct, 5	2, 4ct, 6	—	2ct : 1ct	MT4214-ND	6.70	5.36	4.29	G515
0.50	8.5	5.6	1, 2	3, 4	—	1 : 1.3	MT4209-ND	13.53	10.82	8.66	G516

◆ RoHS Compliant



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