



Telephone Coupling Transformers

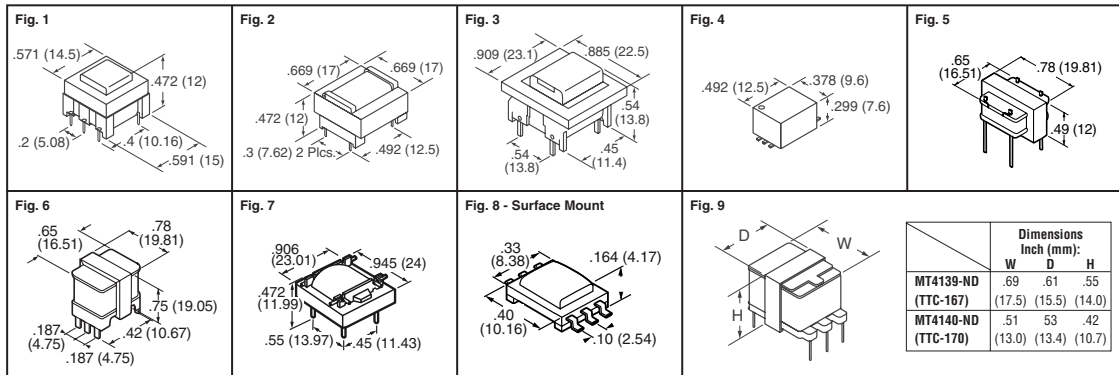
UL1950 3rd Edition Safety Approval:

(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**

UL1459 Safety Approval:

UL1459 is a trusted safety standard for interconnecting data/ voice communication lines and other isolation designs. • **Frequency Response:** 300 - 3,500Hz $\pm 0.5dB$ • **Impedance Matching:** $\pm 10\%$ **UL1459, FFC part 68, File #138028**

Note: Drawings show maximum number of pins, actual parts may have fewer pins



Schematics

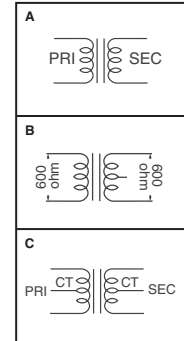


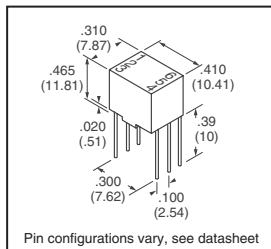
Fig.	Impedance (Ω)		IDC Bias (mA)	Insertion Loss (dB)	Schematic	Pinout		Dielectric Strength Vrms (Pri./Sec.)	Digi-Key Part No.	Price Each			Tamura Part No.
	Primary	Secondary				Primary	Secondary			1	10	25	
UL1950 3rd Edition Safety Approval													
1	600	600	0	1.50	A	1A-3	4-6A	1,875	MT7207-ND	3.73	2.98	2.39	TTC-5017
2	600	600	0	1.00	A	1-3A	4A-6	1,875	MT7213-ND	4.43	3.54	2.84	TTC-5029
3	600	260	50	4.00	A	1-2A	3A-4	1,875	MT7235-ND	3.78	3.02	2.42	TTC-5019
4	600	301	65	3.75	A	1A-2	3-4A	1,875	MT7236-ND	2.95	2.36	1.89	TTC-5020
4	10K	10K	0	0.88	A	1A-3	4-6A	1,875	MT7215CT-ND	3.84	3.54	2.95	TTC-5033
UL1459 Safety Approval — RoHS Compliant													
5	600	600	0	1.0	A	1-3A	4-6A	1,500	MT4112-ND	5.75	4.60	3.68	T1104
	600	600	0	1.2	A	1-3	4-6A	1,500	MT4133-ND	4.63	3.70	2.96	TTC-02
6	600	600	90	2.0	A	1-3A	4-6A	1,500	MT4134-ND	3.98	3.18	2.55	TTC-105
	600	600CT	90	2.0	B	1-3	4-5CT-6A	1,500	MT4135-ND	3.85	3.08	2.47	TTC-105-1
	600CT	600CT	0	1.2	C	1A-2CT-3	4A-5CT-6	1,500	MT4136-ND	4.05	3.24	2.60	TTC-108
7	600	470	100	2.5	A	1-2A	3A-4	1,500	MT4123-ND	3.43	2.74	2.20	TTC-264
8	600	346	0	2.75	A	1A-3	4-6A	1,000	MT4122-ND	10.68	8.54	6.84	TTC-203SL
9	10K	10K	0	1.4	A	1-3A	4-6A	1,000	MT4139-ND	5.10	4.08	3.27	TTC-167
	600	600	0	1.7	A	1-3A	4-6A	1,500	MT4140-ND	4.55	3.64	2.92	TTC-170

◆ RoHS Compliant ◇ Typical insertion loss (IL) in dB @ rated unbalanced maDC, 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 \$ (maDC)	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	11.73	9.38	7.51	MET-01
25kCT : 1KCT	0.50	30	1-2CT-3	4-5CT-6	MT4144-ND	13.15	10.52	8.42	MET-05
10kCT : 10kCT	1.00	40	1-2CT-3	4-5CT-6	MT4145-ND	9.68	7.74	6.20	MET-09
10kCT : 2kCT	1.00	40	1-2CT-3	4-5CT-6	MT4146-ND	10.68	8.54	6.84	MET-11
10kCT : 500CT	1.00	40	1-2CT-3	4-5CT-6	MT4147-ND	13.15	10.52	8.42	MET-17
1.6kCT : 3.2	2.50	65	1-2CT-3	4-6	MT4148-ND	11.00	8.80	7.04	MET-23
1k : 50	3.00	50	1-3	4-6	MT4149-ND	12.08	8.06	6.45	MET-28
900CT : 600	3.00	50	1-2CT-3	4-6	MT4150-ND	10.03	9.62	7.70	MET-29
600CT : 600CT	3.00	50	1-2CT-3	4-5CT-6	MT4111-ND	11.00	8.80	7.04	MET-31
600 : 600CT	3.00	50	1-2	3-4/5-6	MT4151-ND	9.83	7.86	6.29	MET-32
600CT : 8	4.50	50	1-2CT-3	4-6	MT4153-ND	10.40	8.32	6.66	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	8.43	6.74	5.40	MET-39
150 : 12	10.00	50	1-3	4-6	MT4156-ND	10.88	8.70	6.96	MET-42
600 : 600	3.00	50	1-3	4-6	MT4110-ND	9.75	7.60	6.24	MET-46
600 : 600CT	3.00	50	1-2	3-4/5-6	MT4152-ND	11.73	9.38	7.51	MET-59
MU Metal Shield, MET Series, Slip-On Can					MT4157-ND	7.25	5.80	4.64	METC-99

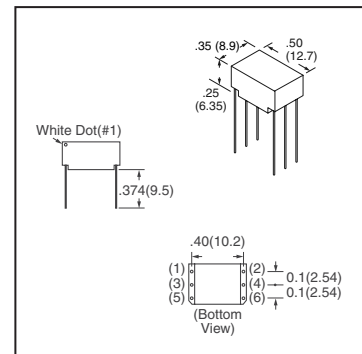
◆ RoHS Compliant † CT-Winding can be connected as a center tapped winding or as two isolated windings. Δ Has special pinout § PRI maDC-Primary maximum rated unbalanced current in milli-amps, DC.

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 10000M Ω minimum

Primary Inductance (mH)	Primary ET Product μS (min.)	Rise Time ns (max.)	Pin Out			Turns Ratio ($\pm 5\%$) 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	6.70	5.36	4.29	G500
0.50	8.5	5.3	1, 2	3, 4	5, 6	1 : 1 : 1	MT4203-ND	12.55	10.04	8.04	G502
0.20	5.0	4.2	1, 2	3, 4	5, 6	1 : 1 : 1	MT4204-ND	5.15	4.12	3.30	G503
0.05	5.2	5.6	1, 2	3, 4	5, 6	1 : 1 : 1	MT4205-ND	3.45	2.76	2.21	G504
5.00	25.0	16.0	1, 2	3, 4	5, 6	2 : 1 : 1	MT4210-ND	8.40	6.72	5.38	G505
1.60	16.0	11.0	1, 2	3, 4	5, 6	2 : 1 : 1	MT4211-ND	7.15	5.72	4.58	G506
0.40	8.5	5.6	1, 2	3, 4	5, 6	2 : 1 : 1	MT4212-ND	5.48	4.38	3.51	G507
2.00	16.0	8.2	1, 3ct, 5	2, 4ct, 6	—	1ct : 1ct	MT4207-ND	5.28	4.22	3.38	G508
0.50	8.5	5.3	1, 3ct, 5	2, 4ct, 6	—	1ct : 1ct	MT4208-ND	5.13	4.10	3.28	G509
2.00	16.0	11.0	1, 3ct, 5	2, 4ct, 6	—	2ct : 1ct	MT4213-ND	5.50	4.40	3.52	G512
1.20	10.0	5.3	1, 2	3, 4	5, 6	1 : 1 : 1	MT4206-ND	5.58	4.46	3.57	G513
0.20	5.0	3.2	1, 3ct, 5	2, 4ct, 6	—	2ct : 1ct	MT4214-ND	5.23	4.18	3.35	G515
0.50	8.5	5.6	1, 2	3, 4	—	1 : 1.3	MT4209-ND	12.55	10.04	8.04	G516

◆ RoHS Compliant



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