

IC - E1 / T1 / PRI / CEPT Transformer Selection Guide



Talema manufactures a wide range of transformers for all 1.544 and 2.048Mbps applications. A full listing of LIU Transceiver IC's with recommended Talema transformers is listed on the following cross reference chart.

Performance has been proven in the many design-ins of our products in these applications. Quality and consistency is guaranteed through 100% testing of the specified parameters for Primary Inductance, Leakage Inductance, Turns Ratio, DC resistance and Interwinding Capacitance. This ensures that the Return Loss and Pulse Waveshape requirements of ITU-T G.703 and ANSI T1.102 can be met. Additionally all parts are 100% tested for 1500V minimum isolation.

Temperature Performance

Products are offered for both standard temperature (Commercial 0° to 70°C) and extended temperature (Industrial -40° to 85°C) applications. Required minimum inductance levels are maintained at the lower temperature limits. Advanced design means that the MJM series may be used for either temperature classification.

Series Types

- IS2M Series Single Transformer in 6 pin through hole package
- MJM Series Miniature Dual Transformer Modules in SMD package
- MSM Series Dual Transformer Modules in 12 Pin Dual SMD package

IC - E1 / T1 / PRI / CEPT Interface Transformer Cross Reference Guide

IC Manufacturer	IC Part Number	Application	Talema Transformer Part Number					
			Single DIL				16 Pin Dual SMD	12 Pin Dual SMD
			Standard Temp		Extended Temp		Standard & Extended Temp	Standard & Extended Temp
			Transmit	Receive	Transmit	Receive	Tx/Rx	Tx/Rx
Cirrus (Crystal)	CS61304A	T1	IS2M-8	IS2M-7	IS2M-21	IS2M-19	MJM-019	MJS-019
	CS61304A	E1	IS2M-12	IS2M-7		IS2M-19	MJM-025	MJS-025
	CS61305A	T1	IS2M-8	IS2M-7	IS2M-21	IS2M-19	MJM-019	MJS-019
	CS61305A	E1	IS2M-12	IS2M-7		IS2M-19	MJM-025	MJS-025
	CS61535A	T1	IS2M-8	IS2M-7	IS2M-21	IS2M-19	MJM-019	MJS-019
	CS61535A	E1	IS2M-12	IS2M-7		IS2M-19	MJM-025	MJS-025
	CS61574A/75	T1	IS2M-8	IS2M-7	IS2M-21	IS2M-19	MJM-019	MJS-019
	CS61574A/75	E1	IS2M-12	IS2M-7		IS2M-19	MJM-025	MJS-025
	CS61577	E1/T1	IS2M-7	IS2M-7	IS2M-19	IS2M-19	MJM-017	MJS-017
	CS61584A	IQ3	IS2M-7	IS2M-7	IS2M-19	IS2M-19	MJM-017	MJS-017
	CS61584A	IQ5	IS2M-8	IS2M-8	IS2M-21	IS2M-21	MJM-013	MJS-013
	CS61582	E1/T1	IS2M-8	IS2M-8	IS2M-21	IS2M-21	MJM-013	MJS-013
	CS61583	E1/T1	IS2M-8	IS2M-8	IS2M-21	IS2M-21	MJM-013	MJS-013
	CS61310	T1-H/ware Mode	IS2M-7	IS2M-15	IS2M-19		MJM-018	MJS-018
	CS61310	T1-Host Mode	IS2M-16	IS2M-15			MJM-026	
	CS61318	E1-120R	IS2M-7	IS2M-15	IS2M-19		MJM-018	MJS-018
CS61318	E1-75R		IS2M-15					
CS61581	E1-H/ware	IS2M-7	IS2M-15	IS2M-19		MJM-018	MJS-018	
CS61581	E1-Matched Imp	IS2M-16	IS2M-15			MJM-026		
Cologne Chip	HFC-E1	S2M					MJM-032	
Exar	XRT5683A	T1/E1/T2/E2	IS2M-6	IS2M-6	IS2M-19	IS2M-19	MJM-017	MJS-017
	XRT56L85	T1/CEPT	IS2M-6	IS2M-6	IS2M-19	IS2M-19	MJM-017	MJS-017
	XRT5793	E1	IS2M-12				MJM-025	MJS-025
	XRT5794	E1	IS2M-12				MJM-025	MJS-025
	XRT5894	E1	IS2M-7	IS2M-7	IS2M-19	IS2M-19	MJM-017	MJS-017
	XRT5897	E1	IS2M-7	IS2M-7	IS2M-19	IS2M-19	MJM-017	MJS-017
	XRT7288	CEPT	IS2M-10	IS2M-7		IS2M-19	MJM-028	MJS-028



IC - E1/T1/PRI/CEPT Dual SMD Interface Transformer Cross Reference Guide

IC Manufacturer	IC Part Number	Application	Talema Transformer Part Number					
			Single DIL				16 Pin Dual SMD	12 Pin Dual SMD
			Standard Temp		Extended Temp		Standard & Extended Temp	Standard & Extended Temp
			Transmit	Receive	Transmit	Receive	Tx/Rx	Tx/Rx
Dallas	DS21352L(N)	T1	IS2M-7	IS2M-15	IS2M-19	IS2M-20	MJM-018	MJS-018
	DS21552L(N)	T1 - Note 1	IS2M-8	IS2M-15	IS2M-21	IS2M-20	MJM-019	MJS-019
	DS21552L(N)	T1 - Note 1	IS2M-10	IS2M-15		IS2M-20	MJM-028	MJS-028
	DS21354L(N)	E1	IS2M-7	IS2M-15	IS2M-19	IS2M-20	MJM-018	MJS-018
	DS21554L(N)	E1 - Note 1	IS2M-8	IS2M-15	IS2M-21	IS2M-20	MJM-019	MJS-019
	DS21554L(N)	E1 - Note 1	IS2M-10	IS2M-15		IS2M-20	MJM-028	MJS-028
	DS2187	T1/CEPT	IS2M-10	IS2M-7		IS2M-19	MJM-028	MJS-028
	DS2148/Q8	T1/E1/J1-5V	IS2M-10	IS2M-15		IS2M-20	MJM-028	MJS-028
	DS2148/Q8	T1/E1/J1-3.3V	IS2M-7	IS2M-15	IS2M-19	IS2M-20	MJM-018	MJS-018
	DS2151Q, DS2152	T1 - Note 1	IS2M-8	IS2M-15	IS2M-21	IS2M-20	MJM-019	MJS-019
DS2151Q, DS2152	T1 - Note 1	IS2M-10	IS2M-15		IS2M-20	MJM-028	MJS-028	
DS2153Q, DS2154	E1	IS2M-8	IS2M15	IS2M-21	IS2M-20	MJM-019	MJS-019	
Infineon (Siemens)	PEB2235	T1/CEPT - Note 2					MJM-027	MJS-027
	PEB2254, PEB2255	E1/T1 - Note 3			IS2M-23	IS2M-23	MJM-010	MJS-010
	PEB2254, PEB2255	E1/T1 - Note 3			IS2M-23	IS2M-23	MJM-021	MJS-021
	PEB2256	E1/T1					MJM-022	
	PEB22320	CEPT 120R					MJM-023	
Level One	LXT300Z	E1/T1	IS2M-7	IS2M-7	IS2M-19	IS2M-19	MJM-018	MJS-018
	LXT301Z	E1/T1	IS2M-7	IS2M-7	IS2M-19	IS2M-19	MJM-018	MJS-018
	LXT304A	E1/T1	IS2M-7	IS2M-7	IS2M-19	IS2M-19	MJM-018	MJS-018
	LXT305A	T1	IS2M-8	IS2M-7	IS2M-21	IS2M-19	MJM-019	MJS-019
	LXT307	T1	IS2M-11	IS2M-7		IS2M-19	MJM-016	
	LXT307	E1 - Note 4	IS2M-15	IS2M-7	IS2M-20	IS2M-19	MJM-018	MJS-018
	LXT307	E1 - Note 4	IS2M-7		IS2M-19			
	LXT310	T1	IS2M-7	IS2M-15	IS2M-19	IS2M-20	MJM-018	MJS-018
	LXT312, LXT315	T1		IS2M-15		IS2M-20		
	LXT317	DECT	IS2M-7	IS2M-15	IS2M-19	IS2M-20	MJM-018	MJS-018
	LXT318	E1 120R	IS2M-7	IS2M-15	IS2M-19	IS2M-20	MJM-018	MJS-018
	LXT318	E1 75R		IS2M-15		IS2M-20		
	LXT331	E1/T1 - Note 4	IS2M-7	IS2M-15	IS2M-19	IS2M-20	MJM-018	MJS-018
	LXT331	E1/T1 - Note 4	IS2M-11	IS2M-15		IS2M-20	MJM-016	MJS-016
	LXT331	E1/T1 - Note 4	IS2M-8	IS2M-15	IS2M-21	IS2M-20	MJM-019	MJS-019
	LXT332	E1/T1	IS2M-7	IS2M-7	IS2M-19	IS2M-19	MJM-017	MJS-017
	LXT334	E1/T1 120/100R	IS2M-15	IS2M-15	IS2M-20	IS2M-20	MJM-018	MJS-018
	LXT334	T1 100R	IS2M-16	IS2M-15	IS2M-20	IS2M-20	MJM-026	
	LXT335	E1 120/75R	IS2M-10	IS2M-15		IS2M-20	MJM-028	MJS-028
	LXT335	120/75R Line Match	IS2M-7	IS2M-15	IS2M-19	IS2M-20	MJM-018	MJS-018
	LXT335	75R Low Power	IS2M-12	IS2M-15		IS2M-20	MJM-025	MJS-025
	LXT335	75R	IS2M-18	IS2M-15		IS2M-20		
	LXT336	120/75R	IS2M-7		IS2M-19			
	LXT350	T1	IS2M-8	IS2M-15	IS2M-21	IS2M-20	MJM-019	MJS-019
	LXT351	T1/E1	IS2M-7	IS2M-15	IS2M-19	IS2M-20	MJM-018	MJS-018
	LXT351	E1 120R	IS2M-11	IS2M-15		IS2M-19	MJM-016	
	LXT359	T1	IS2M-7	IS2M-15	IS2M-19	IS2M-20	MJM-018	MJS-018
	LXT360	E1	IS2M-11	IS2M-15		IS2M-20	MJM-016	
	LXT361	T1 100R	IS2M-8	IS2M-15	IS2M-21	IS2M-20	MJM-019	MJS-019
	LXT361	T1 100/120/75R	IS2M-7	IS2M-15	IS2M-19	IS2M-20	MJM-018	MJS-018
LXT361	E1 75R	IS2M-17	IS2M-15		IS2M-20			
LXT380, 381, 382	E1	IS2M-7	IS2M-15	IS2M-19	IS2M-20	MJM-018	MJS-018	
LXT384, LXT386	T1/E1	IS2M-7	IS2M-7	IS2M-19	IS2M-19	MJM-017	MJS-017	
Lucent (AT&T)	T7288	CEPT/E1	IS2M-10	IS2M-6		IS2M-19	MJM-028	MJS-028
	T7289A	DS1	IS2M-8	IS2M-7	IS2M-21	IS2M-19	MJM-019	MJS-019
	T7290A	T1/CEPT	IS2M-10	IS2M-6		IS2M-19	MJM-028	MJS-028
	T7690	DS1	IS2M-8	IS2M-8	IS2M-21	IS2M-21	MJM-013	MJS-013
	T7690	CEPT	IS2M-10	IS2M-10				
T7693	DS1	IS2M-7	IS2M-7	IS2M-19	IS2M-19	MJM-017	MJS-017	
PMC -Sierra	PM4341A	DSX-1	IS2M-6	IS2M-10	IS2M-19		MJM-028	MJS-028
	PM4351	E1/T1					MJM-029	
	PM6341	E1	IS2M-6	IS2M-10	IS2M-19		MJM-028	MJS-028

Notes:

1. Dallas IC's use either a 1:1.15 or a 1:1.36 ratio transformer depending on the application. Consult the Dallas application notes or contact Talema.
2. Consult Siemens Application Note 12.90 ('Just a Single Line Transformer Type for all IPAT (PEB2235) Applications') for calculation of resistor values.
3. The Dual Transformer types MDM-010 and MDM-021 are electrically identical but have different schematics. Either part may be used with the PEB2254 and PEB2255.
4. See Level One Application Note 118 ('Transformer Specifications for Level One Transceiver Applications') for further details on the choice of transformer ratios.