

TELECOMMUNICATIONS PRODUCTS



Pulse is a leading provider of magnetics for telecom infrastructure equipment, customer premises equipment, audio interface applications, and emerging applications such as VoIP. Our broad portfolio of transformers and integrated transformer modules support T1/E1/ISDN-PRI, T3/E3/STS-1, ISDN-S, ISDN-U, Digital Audio, and DDS.

Package options include surface mount, through hole, single, dual, quad and octal covering standard and extended temperature ranges. Many parts meet ANSI, ITU and ETSI requirements, and many are recognized by UL, TUV, Austel and/or CSA. Numerous models incorporate our patented "Interlock Base" construction, ensuring high reliability.

Please see our "Telecom IC Cross Reference" section that begins on page 18.



TRANSFORMERS

T1/E1/CEPT/ISDN-Pri—SINGLE, DUAL

Part Number	RoHS-6 Part Number	Turns Ratio	Package L/W/H (in.)*	Data Sheet	Part Number	RoHS-6 Part Number	Turns Ratio	Package L/W/H (in.)*	Data Sheet
SINGLE TRANSFORMERS					3.0 kV – Reinforced Insulation per IEC 950, THT (continued)				
1.5 kV Isolation, Standard Temperature Range, THT									
PE-64931	PE-64931NL	1:1:1 (1:2CS)	.350 / .500 / .250	T608	PE-65832	PE-65832NL	1:1.36CT	.558 / .558 / .400	T608
PE-64933	PE-64933NL	1CT:3CT	.350 / .500 / .250	T608	PE-65833	PE-65833NL	1CT:2CT	.558 / .558 / .400	T608
PE-64934	PE-64934NL	1:1	.350 / .500 / .250	T608	PE-65834	PE-65834NL	1:1	.558 / .558 / .400	T608
PE-64936	PE-64936NL	1CT:1	.350 / .500 / .250	T608	PE-65835	PE-65835NL	1CT:2CT	.558 / .558 / .400	T608
PE-64937	PE-64937NL	1:1.36	.350 / .500 / .250	T608	PE-65836	PE-65836NL	1CT:3CT:1	.558 / .558 / .400	T608
PE-64940	PE-64940NL	1:1:1.58	.350 / .500 / .250	T608	PE-65837	PE-65837NL	1:1.08:1.36	.558 / .558 / .400	T608
PE-64941	PE-64941NL	1:1:2	.350 / .500 / .250	T608	PE-65838	PE-65838NL	1:1.14	.558 / .558 / .400	T608
PE-64942	PE-64942NL	1:1:2.62	.350 / .500 / .250	T608	PE-65839	PE-65839NL	1:1:1.266	.558 / .558 / .400	T608
PE-64943	PE-64943NL	1CT:2CT	.350 / .500 / .250	T608	PE-68646	PE-68646NL	1:1.58:2	.558 / .558 / .400	T608
PE-65351	PE-65351NL	1:2CT	.350 / .500 / .250	T608	PE-68788	PE-68788NL	1CT:1.41CT	.558 / .558 / .400	T608
PE-65363	PE-65363NL	1:4CT	.350 / .500 / .250	T608	DUAL TRANSFORMERS				
PE-65379	PE-65379NL	1:1.14CT	.350 / .500 / .250	T608	1.5 kV Isolation, Extended Temperature Range, THT				
PE-65388	PE-65388NL	1:1.15CT	.350 / .500 / .250	T608	PE-68618	PE-686 18NL	1CT:1CT & 1CT:3CT:0.25	1.000 / .390 / .290	T608
PE-65389	PE-65389NL	1:1:1.266	.350 / .500 / .250	T608	PE-64950	PE-64950NL	1CT:1CT & 1CT:3CT:1	1.000 / .390 / .290	T608
PE-65415	PE-65415NL	1CT:2CT	.350 / .500 / .250	T608	PE-65567	PE-65567NL	1:1.15CT & 1:2CT	.800 / .390 / .290	T608
PE-65558	PE-65558NL	1:2.3CT	.350 / .500 / .250	T608	PE-65568	PE-65568NL	1:1:1.266 & 1:2CT	.800 / .390 / .290	T608
PE-65586	PE-65586NL	1:1.36CT	.350 / .500 / .250	T608	PE-65774	PE-65774NL	1CT:2CT & 1:1.36CT	.800 / .390 / .290	T608
PE-65755	PE-65755NL	1CT:1CT	.350 / .500 / .250	T608	1.5 kV Isolation, Standard Temperature Range, THT				
PE-68644	PE-68644NL	1CT:1	.350 / .500 / .250	T608	PE-64951	PE-64951NL	1:2CT & 1:2CT	.800 / .390 / .250	T608
PE-68645	PE-68645NL	1:1.36CT	.350 / .500 / .250	T608	PE-64952	PE-64952NL	1:2CT & 1:1.36CT	.800 / .390 / .250	T608
T1054	T1054NL	1:1.5CT	.350 / .500 / .250	T608	PE-64953	PE-64953NL	1:2CT & 1:2CT	.800 / .390 / .250	T608
T1249	T1249NL	1:1.26CT	.350 / .500 / .250	T608	PE-64954	PE-64954NL	1CT:2CT & 1:1	.800 / .390 / .250	T608
1.5 kV Isolation, Extended Temperature Range, THT					PE-64955	PE-64955NL	1.58:2CT & 1.58:1	.800 / .390 / .250	T608
PE-68664	PE-68664NL	1:1/1.26	.350 / .500 / .250	T608	PE-64956	PE-64956NL	2:2CT & 2:1	.800 / .390 / .250	T608
PE-65340	PE-65340NL	1:1.36	.350 / .500 / .250	T608	PE-64957	PE-64957NL	2.62:2CT & 2.62:1	.800 / .390 / .250	T608
PE-65770	PE-65770NL	1:1.15CT	.350 / .500 / .250	T608	PE-65565	PE-65565NL	1:1.15CT & 1:2CT	.800 / .390 / .290	T608
PE-65771	PE-65771NL	1CT:2CT	.350 / .500 / .250	T608	PE-65566	PE-65566NL	1:1:1.266 & 1:2CT	.800 / .390 / .290	T608
PE-65778	PE-65778NL	1CT:1CT	.350 / .500 / .250	T608	1.5 kV Isolation, Standard Temperature Range, BH Package, SMT				
PE-68600	PE-68600NL	1CT:3CT	.350 / .500 / .250	T608	T1136	T1136NL	1CT:1CT & 1CT:1.36CT	.505 / .375 / .245	T608
TX1252	TX1252NL	1CT:1	.350 / .500 / .250	T608	T1022	T1022NL	1CT:1.1CT & 1CT:1.5CT	.505 / .375 / .245	T608
T1229	T1229NL	1:1.583CT	.350 / .500 / .250	T659	T1190	T1190NL	1CT:1.36CT & 1CT:1CT	.505 / .375 / .245	T654
1.5 kV Isolation, Extended Temperature Range, SMT					PE-65861	PE-65861NL	1CT:2CT & 1CT:2CT	.505 / .375 / .245	T608
TX1281	—	1CT:1	.220 / .305 / .200	T669	PE-65862	PE-65862NL	1CT:2CT & 1:1.36CT	.505 / .375 / .245	T608
TX1282	—	1.14CT:1	.220 / .305 / .200	T669	PE-65865	PE-65865NL	1:1.15CT & 1CT:2CT	.505 / .375 / .245	T608
TX1283	—	1.35CT:1	.220 / .305 / .200	T669	PE-65866	PE-65866NL	1:1/1.26 & 1CT:2CT	.505 / .375 / .245	T608
TX1284	—	1.26CT:1	.220 / .305 / .200	T669	PE-65870	PE-65870NL	1CT:1.15CT & 1CT:1.15CT	.505 / .375 / .245	T608
TX1491	—	1CT:1	.220 / .305 / .200	T669	PE-68678	PE-68678NL	1CT:1CT & 1CT:2CT	.505 / .375 / .245	T608
TX1492	—	2CT:1	.220 / .305 / .200	T669	PE-68786	PE-68786NL	1CT:1.41CT & 1CT:1.41CT	.505 / .375 / .245	T608
TX1314	—	1:1/1.26	.300 / .390 / .250	T678	T1023	T1023NL	1CT:1.41CT & 1CT:1.41CT	.505 / .375 / .245	T608
TX1315	—	1CT:1CT	.300 / .390 / .250	T678	T1137	T1137NL	1CT:2.42CT & 1CT:2.42CT	.505 / .375 / .245	T651
TX1320	—	1CT:1.36CT	.300 / .390 / .250	T678	T1021	T1021NL	2CT:1/1.26 & 2CT:1/1.26	.505 / .375 / .245	T637
3.0 kV – Reinforced Insulation per IEC 950, THT					T1075	T1075NL	2CS:1.57/2 & 2CS:1.57/2	.505 / .375 / .245	T678
PE-65830	PE-65830NL	1:1:1.58	.558 / .558 / .400	T608	T1122	T1122NL	1CT:2CT & 1CT:2.3CT	.505 / .375 / .245	T608
PE-65831	PE-65831NL	1:1:2	.558 / .558 / .400	T608	T1121	T1121NL	1CT:1.5CT & 1CT:1.5CT	.505 / .375 / .245	T608
					T1286	T1286NL	1CT:2.4CT & 1CT:2.4CT	.505 / .375 / .245	T608

1. To make a 1CT:1 ratio from a 1CT:2CT ratio, use only one-half the 2CT winding.

*L/W/H is measured on surface mount parts tip to tip (height includes wash area).

SMT - Surface Mount Package THT - Through Hole Package

TELECOM IC CROSS REFERENCE



IC CROSS REFERENCE

ISDN U-Interface						
IC Manufacturer/ IC Part Number	Recommended Transformer					
	1.5 kV		2 kV		2.5 kV	3 kV
	THT	SMT	THT	SMT		
Alcatel (Microelectronics)						
MTC20276	—	T4043	—	—	—	—
AKM						
AK5204	T4022	—	—	—	—	—
Infineon Technologies (Siemens)						
PEB 2091	PT5031	T4031	PE-65575	T4002	—	PE-68669
PEB 8091/8191	—	T4031	PE-65575	T4002	—	PE-68669
PEB 2090/20901	—	T4067	PE-65578	—	—	—
PEB 24902/11	—	T4031	PE-65575	T4002	—	PE-68669
PSB 21910/11	—	T4031	PE-65575	T4002	—	PE-68669
PEB 2491	—	T4032	—	—	—	—
PEB 20901	—	T4067	PE-65578	—	—	—
PEB 2095	—	—	—	—	—	—
PSB 2196	—	—	—	—	—	—
Lucent Technologies						
T7234	PT4084	—	T4008	—	—	—
Motorola						
MC145472	—	—	PE-65579	—	—	—
MC145572	PT5062	T4033	PE-68628 ¹	T4001 ²	PE-68668	—
National Semiconductor						
TP3410	PT5065	—	PE-65583	—	PE-68631	—
	—	—	PE-65584	T4004	—	—
Thomson						
SD 5411	—	—	PE-65581	T4006	PE-68631	—

1. **Small package** for North American applications available.
See **T618** data sheet.

2. **Suitable** for use in North America only.

Echelon® & Digital Audio			
IC Manufacturer	IC Part Number	Single	
		SMT	THT
Echelon®	3120™ 1.25 Mbps	PE-65848	PE-65948
	3150™ 1.25 Mbps	PE-65848	PE-65948
AKM	AK4101	PE-65812	PE-65612
	AK4102	PE-65812	PE-65612
	AK4103	PE-65812	PE-65612
Cirrus Logic	CS8401/2/3/4	PE-65812	PE-65612
	CS8405/8415	PE-65812	PE-65612
	CS8413/14/27	PE-65812	PE-65612
	CS8406/8416	—	T6074/T6075
Realtek	ALS300+	PE-65812	PE-65612

DDS/Switched 56		
IC Manufacturer	IC Part Number	Recommended Transformer
		Dual SMT
Intel	LXT 441	T7002
Intel	LXT 441	T7006

SONET/SDH (STM-1/E4/CMI) DUAL TRANSFORMERS		
IC Manufacturer	IC Part Number	Recommended Transformer
		Single SMT
AMCC	S3015, S3016, S3031B	A7802
Intel	LXT6155	ST6200QNL

ISDN S-Interface								
IC Manufacturer/ Part Number	Dual SMT	Single THT	Dual THT	Dual SMT Module 1.5kVRMS	THT Module w/ Choke 1.5kVRMS	Single THT 3kVRMS	Dual SMT 3kVRMS	PCMCIA
	TX & RX	TX & RX	TX & RX	TX & RX	TX & RX	TX & RX	TX & RX	TX & RX
Alcatel (Microelectronics)								
MTC2072, MTC20172	PE-65795/T5007 ^{LP} /ST5069	PE-64995	PE-65495	T5034/T5038/ST5201	T5015/T5012	PE-68995/T5035	T5042	T5003
MTC20276/77	PE-65795/T5007 ^{LP} /ST5069	PE-64995	PE-65495	T5034/T5038/ST5201	T5015/T5012	PE-68995/T5035	T5042	T5003
AMD								
AM79C30/32	PE-65799/T5006 ^{LP}	PE-64999	PE-65499	T5034/T5038/ST5201	T5015/T5012	PE-68995/T5035	T5042	T5003
Cologne Chip Design								
HFC-SXX	PE-65795/T5007 ^{LP} /ST5069	PE-64995	PE-65495	T5034/T5038/ST5201	T5015/T5012	PE-68999/T5035	T5042	T5003
Infineon Technologies (Siemens)								
PEB2080/81/84/85/86	PE-65795/T5007 ^{LP} /ST5069	PE-64995	PE-65495	T5034/T5038/ST5201	T5015/T5012	PE-68995/T5035	T5042	T5003
PSB2115/86	PE-65795/T5007 ^{LP} /ST5069	PE-64995	PE-65495	T5034/T5038/ST5201	T5015/T5012	PE-68995/T5035	T5042	T5003
PSB21381/82/83/84	PE-65793/T5008 ^{LP} /ST5048	PE-64993	PE-65493	T5049	T5011	PE-68993	—	T5002
PEB3018/86, PSB3186	PE-65793/T5008 ^{LP} /ST5048	PE-64993	PE-65493	T5049	T5011	PE-68993	—	T5002
PEB8090/91, PEB8190/91	—	—	—	T5034/T5038/ST5201	T5015/T5012	PE-68995/T5035	T5042	—
Intel								
29C53	PE-65795/T5010 ^{LP} /ST5069	PE-64995	PE-65495	T5034/T5038/ST5201	T5015/T5012	PE-68995/T5035	T5042	T5003
Lucent Technologies								
T7234, T7254	PE-65798/T5005 ^{LP}	PE-64998	PE-65498	T5037/T5039	T5013	PE-68998	T5043	T5004
T7250/56/59	PE-65798/T5005 ^{LP}	PE-64998	PE-65498	T5037/T5039	T5013	PE-68998	T5043	T5004
T7901/03	PE-65795/T5007 ^{LP} /ST5069	PE-64995	PE-65495	T5034/T5038/ST5201	T5015/T5012	PE-68995/T5035	T5042	T5003
Mitel								
MT8930/31	PE-65795/T5007 ^{LP} /ST5069	PE-64995	PE-65495	T5034/T5038/ST5201	T5015/T5012	PE-68995/T5035	T5042	T5003
Motorola								
MC145474/475	PE-65793/T5008 ^{LP} /ST5048	PE-64993	PE-65493	T5049	T5011	PE-68993	—	T5002
MC145574	PE-65798/T5005 ^{LP}	PE-64998	PE-65498	T5037/T5039	T5013	PE-68998	T5043	T5004
National Semiconductor								
TP3420/21	PE-65795/T5007 ^{LP} /ST5069	PE-64995	PE-65495	T5034/T5038/ST5201	T5015/T5012	PE-68995/T5035	T5042	T5003
SGS Thomson								
ST5420/21	PE-65795/T5007 ^{LP} /ST5069	PE-64995	PE-65495	T5034/T5038/ST5201	T5015/T5012	PE-68995/T5035	T5042	T5003
Yamaha								
7405B, YTD421	PE-65795/T5007 ^{LP} /ST5069	PE-64995	PE-65495	T5034/T5038/ST5201	T5015/T5012	PE-68995/T5035	T5042	T5003

NOTE: LP = Low Profile

*L/W/H is measured on surface mount parts tip to tip (height includes wash area).

SMT - Surface Mount Package THT - Through Hole Package

TELECOM IC CROSS REFERENCE



IC CROSS REFERENCE

T3/DS3/E3/STS-1

IC Manufacturer/ IC Part Number	12 Xfmrs Ext. Temp.	Octal Xfmrs	6 Xfmrs Ext. Temp.	Dual SMT Ext. Temp.	Single SMT				Single THT		Single THT 3 kVRMS	
					Standard Temp.		Extended Temp.		TX	RX	TX	RX
					TX	RX	TX	RX				
Exar												
XRT75xxx	TX3051	T3048	TX3036	TX3025	PE-65967	PE-65967	T3001	T3001	PE-65966	PE-65966	PE-68629	PE-68629
XRT73L00/2/3/4/6/12	TX3051	T3048	TX3036	TX3025	PE-65967	PE-65967	T3001	T3001	PE-65966	PE-65966	PE-68629	PE-68629
XRT73LC03A/04A,R12	TX3051	T3048	TX3036	TX3025	PE-65967	PE-65967	T3001	T3001	PE-65966	PE-65966	PE-68629	PE-68629
XRT7300/7302	TX3051	T3048	TX3036	TX3025	PE-65967	PE-65967	T3001	T3001	PE-65966	PE-65966	PE-68629	PE-68629
Infineon Technologies												
PEB3452/3460	—	—	—	—	—	—	T3027	T3011/01	—	—	—	—
Maxim (Dallas Semi)												
DS3181/2/3/4	TX3052	T3049	—	—	PE-65968	PE-65968	T3002	T3002	PE-65969	PE-65969	PE-68630	PE-68630
DS3150/1/2/3/4	TX3052	T3049	—	—	PE-65968	PE-65968	T3002	T3002	PE-65969	PE-65969	PE-68630	PE-68630
Mindspeed												
CN28333/332/331	TX3051	T3048	TX3036	TX3025	PE-65967	PE-65967	T3001	T3001	PE-65966	PE-65966	PE-68629	PE-68629
M28335/M28356	TX3051	T3048	TX3036	TX3025	PE-65967	PE-65967	T3001	T3001	PE-65966	PE-65966	PE-68629	PE-68629
M28354/3/2	TX3051	T3048	TX3036	TX3025	PE-65967	PE-65967	T3001	T3001	PE-65966	PE-65966	PE-68629	PE-68629
TDK Semiconductor												
78P2342/43/44	TX3051/TX3052	TX3045	T3020 or TX3026	PE-65968	PE-65967	T3002	T3001	PE-65969	PE-65966	PE-68630	PE-68629	—
78P2241B	TX3051/TX3052	TX3045	T3020 or TX3026	PE-65968	PE-65967	T3002	T3001	PE-65969	PE-65966	PE-68630	PE-68629	—
78P7200/7200L	TX3051/TX3052	TX3045	T3020 or TX3026	PE-65968	PE-65967	T3002	T3001	PE-65969	PE-65966	PE-68630	PE-68629	—
78P7203L/7204L	TX3051/TX3052	TX3045	T3020 or TX3026	PE-65968	PE-65967	T3002	T3001	PE-65969	PE-65966	PE-68630	PE-68629	—
78P2362/2361	TX3051/TX3052	TX3045	T3020 or TX3026	PE-65968	PE-65967	T3002	T3001	PE-65969	PE-65966	PE-68630	PE-68629	—
Transwitch												
MRT TXC-02050	TX3051/TX3052	TX3045	—	T3020 or TX3026	PE-65968	PE-65967	T3002	T3001	PE-65969	PE-65966	PE-68630	PE-68629
ART TXC-02020	TX3051	T3048	—	TX3025	PE-65967	PE-65967	T3001	T3001	PE-65966	PE-65966	PE-68629	PE-68629
ARTE TXC-02021	TX3051	T3048	—	TX3025	PE-65967	PE-65967	T3001	T3001	PE-65966	PE-65966	PE-68629	PE-68629
DART TXC-2030, DS3	TX3051	T3048	—	TX3025	PE-65967	PE-65967	T3001	T3001	PE-65966	PE-65966	PE-68629	PE-68629
DART TXC-2030, E3	TX3051/TX3052	T3049/T3048	—	T3020 or TX3026	PE-65968	PE-65967	T3002	T3001	PE-65969	PE-65966	PE-68630	PE-68629
DS3LIM-SN, TXC20153G	TX3051	T3048	—	TX3025	PE-65967	PE-65967	T3001	T3001	PE-65966	PE-65966	PE-68629	PE-68629
E3LIM TXC-20163	TX3051/TX3052	T3049/T3048	—	T3020 or TX3026	PE-65968	PE-65967	T3002	T3001	PE-65969	PE-65966	PE-68630	PE-68629

*L/W/H is measured on surface mount parts tip to tip (height includes wash area).

SMT - Surface Mount Package THT - Through Hole Package

