



# Application Note 351

## Transformer Selection Guide

This application note lists a number of transformer part numbers from a variety of vendors for use with the DS2151, DS2152, DS2153 & DS2154. Specifications for selecting the appropriate transformer are given in the table below. Some of the 1:1 transformers are actually 1:2 with a center tap. 1:1 operation is obtained by connecting one end of the winding and the center tap, leaving the other end of the winding open.

### TRANSFORMER SPECIFICATIONS

SPECIFICATION	RECOMMENDED VALUE
URNS RATIO	1:1 (RECEIVE) AND 1:1.15 OR 1:1.36 (TRANSMIT) $\pm 5\%$
PRIMARY INDUCTANCE	600 $\mu$ H MINIMUM
LEAKAGE INDUCTANCE	1.0 $\mu$ H MAXIMUM
INTERTWINING CAPACITANCE	40 pF MAXIMUM
DC RESISTANCE	1.2 OHMS MAXIMUM

Vendor	Part Number	Turns Ratio	Package Type	Number of Ports	Commercial or Industrial	Isolation Voltage
Bel Fuse	A553-0013-07	1:1 & 1:1.15	Through Hole	1	C	1500
	0553-0013-AC	1:1	Through Hole	Rx only	C	1500
	0553-0013-BC	1:1	Through Hole	Rx only	C	1500
	0553-0013-RC	1:1.15	Through Hole	Tx only	C	1500
	0553-0013-7J	1:1 & 1:1.15	Through Hole	1	C	1500
	S553-0013-06	1:1 & 1:1.15	Surface Mount	1	C	1500
	0553-6500-19	1:1	Through Hole	Rx only	C	3000
	S553-6500-14	1:1.15 & 1:1	Surface Mount	1	C	1500
Halo	TD02-1205A	1:1	Through Hole	Rx only	C	1500
	TD38-1505A	1:1.15	Through Hole	Tx only	I	1500
	TD70-1205A	1:1.36	Through Hole	Tx only	C	1500
	TD63-1505D	1:1 & 1:1.15	Through Hole	1	I	1500
	TG63-1205N1	1:1 & 1:1.15	Surface Mount	1	C	1500
	TG36-1505NX	1:1 & 1:1.15	Surface Mount	4	I	1500
	TG27-1505NX	1:1 & 1:1.36	Surface Mount	4	I	1500
InNet	1T0008	1:1 & 1:1.15	Through Hole	1	C	1500
	1T0012	1:1 & 1:1.36	Through Hole	1	C	1500
	C0031	1:1 & 1:1.15	RJ-45	1	C	1500
	T2014	1:1.36	Through Hole	Tx only	C	3000
	T2021	1:1	Through Hole	Rx only	C	3000
	T2002	1:1	Through Hole	Rx only	C	1500
	T2004	1:1 & 1:1.36	Through Hole	Tx only	C	1500
	T2006	1:1 & 1:1.15	Through Hole	Tx only	C	1500
Midcom, Inc	671-5792	1:1	Through Hole	Rx only	C	1500

Vendor	Part Number	Turns Ratio	Package Type	Number of Ports	Commercial or Industrial	Isolation Voltage
	671-6599	1:1.15	Through Hole	Tx only	C	1500
	671-7734	1:1	Through Hole	Rx only	C	1500
	671-7735	1:1.15	Through Hole	Tx only	C	1500
	671-7808	1:1.36	Through Hole	Tx only	I	1500
	671-7809	1:1	Through Hole	Rx only	I	1500
	671-7815	1:1.36	Through Hole	Tx only	I	1500
	671-7816	1:1	Through Hole	Rx only	I	1500
Premier	PM-IS32	1:1.37	Through Hole	Tx only	C	3000
	PM-IS33	1:1	Through Hole	Rx only	C	3000
Pulse	PE-65388	1:1.15	Through Hole	Tx only	C	1500
	PE-65586	1:1.36	Through Hole	Tx only	C	1500
	PE-65770	1:1.15	Through Hole	Tx only	I	1500
	PE-65340	1:1.36	Through Hole	Tx only	I	1500
	PE-64936	1:1	Through Hole	Rx only	C	1500
	PE-65778	1:1	Through Hole	Rx only	I	1500
	PE-65565	1:1 & 1:1.15	Through Hole	1	C	1500
	PE-64952	1:1 & 1:1.36	Through Hole	1	C	1500
	PE-65567	1:1 & 1:1.15	Through Hole	1	I	1500
	PE-65774	1:1 & 1:1.36	Through Hole	1	I	1500
	PE-65765	1:1 & 1:1.15	Surface Mount	1	C	1500
	PE-65762	1:1 & 1:1.36	Surface Mount	1	C	1500
	PE-65825	1:1 & 1:1.15	Surface Mount	1	I	1500
	PE-65822	1:1 & 1:1.36	Surface Mount	1	I	1500
	PE-68645	1:1.36	Through Hole	Tx only	C	1500
	PE-68644	1:1	Through Hole	Rx only	C	1500
	PE-65882	1:1.36	Through Hole	Tx only	C	3000
	PE-65883	1:1	Through Hole	Rx only	C	3000
	T1001	1:1 & 1:1.36	Surface Mount	2	C	1500
	T1007	1:1 & 1:1.15	Surface Mount	2	C	1500
Schott	67130840	1:1	Surface Mount	Rx only	C	1500
	67129310	1:1.17	Surface Mount	Tx only	C	1500
	67134190	1:1.36	Surface Mount	Tx only	C	1500
Vitec	16Z5936	1:1	Through Hole	Rx only	C	1500
	16Z5952	1:1.15	Through Hole	Tx only	C	1500
	16Z5937	1:1.36	Through Hole	Tx only	C	1500
	24Z4665	1:1 & 1:1.15	Through Hole	1	C	1500
	24Z4652	1:1 & 1:1.36	Through Hole	1	C	1500
	18Z48883	1:1.15	Through Hole	Tx only	C	3000
	18Z4882	1:1.36	Through Hole	Tx only	C	3000
	18Z4885	1:1	Through Hole	Rx only	C	3000
YCL	PT163045	1:1 & 1:1.15	Surface Mount	1	C	1500

**VENDOR LIST:**

Bel Fuse Inc. 198 Van Vorst Street Jersey City, NJ 07302	Phone Fax Web site	(201) 432-0463 (201) 432-9542 <a href="http://www.belfuse.com">www.belfuse.com</a>
HALO P.O. Box 5826 Redwood City, CA 94063	Phone Fax Web site	(415) 969-7313 (415) 367-7158 <a href="http://www.haloelectronics.com">www.haloelectronics.com</a>
InNet Technologies 10635 Scripps Ranch Blvd. Suite F San Diego, CA 92131	Phone Fax Web site	(619) 578-8094 (619) 578-5762 <a href="http://www.innet-tech.com">www.innet-tech.com</a>
Midcom, Inc. P.O. Box 1330 121 Airport Drive Watertown, SD 57201	Phone Fax Web site	(800) 643-2661 (605) 886-4486 <a href="http://www.midcom-inc.com">www.midcom-inc.com</a>
Premier Magnetics 27111 Aliso Creek Rd Suite 175 Aliso Viejo, CA 92656	Phone Fax Web site	(714) 362-4211 (714) 362-4212 <a href="http://www.premiermag.com">www.premiermag.com</a>
Pulse P.O. Box 12236 San Diego, CA 92112	Phone Fax Web site	(619) 674-8100 (619) 674-8262 <a href="http://www.pulseeng.com">www.pulseeng.com</a>
Schott 1000 Parkers Lake Road Wayzata, MN 55391	Phone Fax Web site	(612) 475-1173 (612) 475-1786 <a href="http://www.schottcorp.com">www.schottcorp.com</a>
VITEC 4027 Clipper Ct. Fremont, CA 94538	Phone Fax Web site	(510) 353-9260 (510) 353-9836 <a href="http://www.viteccorp.com">www.viteccorp.com</a>
YCL Taiwan, R.O.C.	Phone Fax Web site	886-2-7962878 886-2-7912635 <a href="http://www.ycl.com">www.ycl.com</a>