

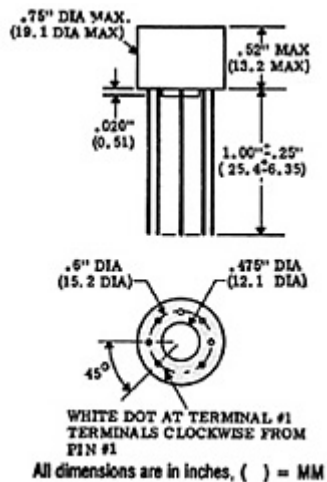
# Ultra Miniature Transformers

## S Series Thru Hole

The PICO "S Series" units can be manufactured and tested to MIL-PRF-27/359. Contact factory for price and delivery information and appropriate part numbers (MIL-PRF-27/359-01 thru MIL-PRF-27/359-147).

### Specifications:

- **MIL-PRF-27:** All units manufactured to MIL-PRF-27, Grade 5, Class S.
- **FREQUENCY RESPONSE:**  $\pm 3$ db, 50 Hz - 30 KHz at 1.0 Milliwatt. ( $\pm 0.5$  db, 300 Hz - 5 KHz).
- **MAXIMUM DISTORTION:** 5% With Rated Power Level at 1 KHz, 300 Hz and 50 Hz.
- **DIELECTRIC STRENGTH:** All Units Tested at 200 V RMS.
- **INSULATION RESISTANCE:** Greater Than 10,000 Megohms at 300 V DC.
- **WEIGHT:** 17 Grams.
- **OPERATING TEMPERATURE:**  $-55^{\circ}$  C to  $+130^{\circ}$  C.
- **TERMINALS:** Solid .020 Diameter Conductor. Solderability per MIL-STD-202 Method 208.
- **THERMAL SHOCK:** 25 Cycles, Method 107, MIL-STD-202, Test Condition  $-55^{\circ}$  C to  $+130^{\circ}$  C.



[Larger size drawing of S Series](#)

**Ultra Miniature Transformers:  
S Series**

Pico Part Number	Prim. Imped. Ohms	Sec. Imped. Ohms Split Windings		Power Watts			Prim. Unbal. DC Curr. ma	Prim. DC Resist. Ohms	Sec. DC Resist. Ohms		Turns Ratio Prim/Sec.		Prices 1-9 *** (US \$)
		SER	PAR	1 KHz and higher	300 Hz and higher	50 Hz and higher			Ser Conn	Par Conn	Sec Ser Conn	Sec Par Conn	
S-21003	20ct	8ct	2	2.0	1.5	.03	22	1.6	.88	.22	1.58:1	3.16:1	75.93
S-21005	20ct	20ct	5	2.0	1.5	.03	22	1.6	2.2	.55	1:1	2:1	75.93
S-21010	32ct	32ct	8	2.0	1.5	.03	17.5	2.56	3.52	.88	1:1	2:1	75.93
S-21015	40ct	40ct	10	2.0	1.5	.03	16	3.2	4.4	1.1	1:1	2:1	75.93
S-21018	48ct	16ct	4	2.0	1.5	.03	14.5	3.84	1.76	.44	1.73:1	3.46:1	75.93
S-21020	50ct	50ct	12.5	2.0	1.5	.03	14	4	5.5	1.38	1:1	2:1	75.93
S-21025	80ct	32ct	8	2.0	1.5	.03	11	6.4	3.52	.88	1.58:1	3.16:1	75.93
S-21028	100ct	40ct	10	2.0	1.5	.03	10	8	4.4	1.1	1.58:1	3.16:1	75.93
S-21030	100ct	100ct	25	2.0	1.5	.03	10	8	11	2.75	1:1	2:1	75.93
S-21035	120ct	12.8ct	3.2	2.0	1.5	.03	9	9.6	1.41	.35	3.06:1	6.12:1	75.93

**Ultra Miniature Transformers:  
S Series**

Pico Part Number	Prim. Imped. Ohms	Sec. Imped. Ohms Split Windings		Power Watts			Prim. Unbal. DC Curr. ma	Prim. DC Resist. Ohms	Sec. DC Resist. Ohms		Turns Ratio Prim/Sec.		Prices 1-9 *** (US \$)
		SER	PAR	1 KHz and higher	300 Hz and higher	50 Hz and higher			Ser Conn	Par Conn	Sec Ser Conn	Sec Par Conn	

S-21040	120ct	60ct	15	2.0	1.5	.03	9	9.6	6.6	1.65	1.41:1	2.83:1	75.93
S-21045	120ct	120ct	30	2.0	1.5	.03	9	9.6	13.2	3.3	1:1	2:1	75.93
S-21050	150ct	12ct	3	2.0	1.5	.03	8	12	1.32	.33	3.54:1	7.08:1	75.93
S-21055	150ct	50ct	12.5	2.0	1.5	.03	8	12	5.5	1.38	1.73:1	3.46:1	75.93
S-21060	150ct	100ct	25	2.0	1.5	.03	8	12	11	2.75	1.22:1	2.44:1	75.93
S-21065	150ct	150ct	37.5	2.0	1.5	.03	8	12	16.5	4.13	1:1	2:1	75.93
S-21070	150ct	600ct	150	2.0	1.5	.03	8	12	66	16.5	1:2	1:1	75.93
S-21075	200ct	200ct	50	2.0	1.5	.03	7	16	22	5.5	1:1	2:1	75.93
S-21080	300ct	12ct	3	2.0	1.5	.03	5.5	24	1.32	.33	5:1	10:1	75.93
S-21085	300ct	50ct	12.5	2.0	1.5	.03	5.5	24	5.5	1.38	2.45:1	4.9:1	75.93
S-21090	300ct	150ct	37.5	2.0	1.5	.03	5.5	24	16.5	4.13	1.41:1	2.83:1	75.93
S-21095	300ct	300ct	75	2.0	1.5	.03	5.5	24	33	8.25	1:1	2:1	75.93
S-21100	300ct	600ct	150	2.0	1.5	.03	5.5	24	66	16.5	1:1.41	1.41:1	75.93
S-21105	320ct	12.8ct	3.2	2.0	1.5	.03	5.5	25.6	1.41	.35	5:1	10:1	75.93
S-21110	400ct	40ct	10	2.0	1.5	.03	5	32	4.4	1.1	3.16:1	6.32:1	75.93
S-21115	400ct	120ct	30	2.0	1.5	.03	5	32	13.2	3.3	1.83:1	3.65:1	75.93
S-21120	400ct	200ct	50	2.0	1.5	.03	5	32	22	5.5	1.41:1	2.83:1	75.93
S-21125	400ct	400ct	100	2.0	1.5	.03	5	32	44	11	1:1	2:1	75.93
S-21130	400ct	1000ct	250	2.0	1.5	.03	5	32	110	27.5	1:1.58	1.26:1	75.93
S-21135	400ct	2000ct	500	2.0	1.5	.03	5	32	220	55	1:2.24	1:1.12	75.93
S-21140	400ct	4000ct	1000	2.0	1.5	.03	5	32	440	110	1:3.16	1:1.58	75.93
S-21142	500ct	12.8ct	3.2	2.0	1.5	.03	4.5	40	1.41	.35	6.25:1	12.5:1	75.93
S-21144	500ct	16ct	4	2.0	1.5	.03	4.5	40	1.76	.44	5.6:1	11.2:1	75.93
S-21145	500ct	50ct	12.5	2.0	1.5	.03	4.5	40	5.5	1.38	3.16:1	6.32:1	75.93
S-21147	500ct	150ct	37.5	2.0	1.5	.03	4.5	40	16.5	4.13	1.83:1	3.65:1	75.93
S-21150	500ct	500ct	125	2.0	1.5	.03	4.5	40	55	13.75	1:1	2:1	75.93
S-21155	*500ct	500ct	-	2.0	1.5	.03	4.5	40	55	-	1:1	-	78.95
S-21160	500ct	600ct	150	2.0	1.5	.03	4.5	40	66	16.5	1:1.1	1.83:1	75.93
S-21165	600ct	12.8ct	3.2	2.0	1.5	.03	4	48	1.41	.35	6.85:1	13.7:1	75.93
S-21167	600ct	30ct	7.5	2.0	1.5	.03	4	48	3.3	.83	4.47:1	8.94:1	75.93
S-21170	600ct	48ct	12	2.0	1.5	.03	4	48	5.28	1.37	3.54:1	7.07:1	75.93
S-21175	600ct	200ct	50	2.0	1.5	.03	4	48	22	5.5	1.73:1	3.46:1	75.93
S-21180**	600ct	600ct	150	2.0	1.5	.03	4	48	66	16.5	1:1	2:1	75.93
S-21185**	*600ct	600ct	-	2.0	1.5	.03	4	48	66	-	1:1	-	78.95
S-21186**	*600ct	900ct	-	2.0	1.5	.03	4	48	99	-	1:1.22	-	78.95
S-21187**	600ct	1200ct	300	2.0	1.5	.03	4	48	132	33	1:1.41	1.41:1	75.93
S-21190	640ct	12.8ct	3.2	2.0	1.5	.03	4	51	1.41	.35	7.07:1	14.14:1	75.93
S-21195	700ct	100ct	25	2.0	1.5	.03	3.5	56	11	2.75	2.65:1	5.29:1	75.93
S-21200	800ct	12.8ct	3.2	2.0	1.5	.03	3.5	64	1.41	.35	7.91:1	15.8:1	75.93
S-21205	800ct	48ct	12	2.0	1.5	.03	3.5	64	5.28	1.32	4.08:1	8.16:1	75.93
S-21210	800ct	800ct	200	2.0	1.5	.03	3.5	64	88	22	1:1	2:1	75.93
S-21215	900ct	600ct	150	2.0	1.5	.03	3	72	66	16.5	1.23:1	2.45:1	75.93
S-21217**	*900ct	900ct	-	2.0	1.5	.03	3	72	99	-	1:1	-	78.95
S-21220	1000ct	12ct	3	2.0	1.5	.03	3	80	1.32	.33	9.13:1	18.26:1	75.93
S-21225	1000ct	50ct	12.5	2.0	1.5	.03	3	80	5.5	1.38	4.47:1	8.94:1	75.93

S-21230	1000ct	1000ct	250	2.0	1.5	.03	3	80	110	27.5	1:1	2:1	75.93
S-21235	1060ct	12.8ct	3.2	2.0	1.5	.03	3	85	1.41	.35	9.1:1	18.2:1	75.93
S-21240	1200ct	12.8ct	3.2	2.0	1.5	.03	3	96	1.41	.35	9.68:1	19.4:1	75.93
S-21245	1200ct	500ct	125	2.0	1.5	.03	3	96	55	13.75	1.55:1	3.1:1	75.93
S-21250	1200ct	1200ct	300	2.0	1.5	.03	3	96	132	33	1:1	2:1	75.93

**Ultra Miniature Transformers:  
S Series**

Pico Part Number	Prim. Imped. Ohms	Sec. Imped. Ohms Split Windings		Power Watts			Prim. Unbal. DC Curr. ma	Prim. DC Resist. Ohms	Sec. DC Resist. Ohms		Turns Ratio Prim/Sec.		Prices 1-9 *** (US \$)
		SER	PAR	1 KHz and higher	300 Hz and higher	50 Hz and higher			Ser Conn	Par Conn	Sec Ser Conn	Sec Par Conn	
S-21255	*1200ct	1200ct	-	2.0	1.5	.03	3	96	132	-	1:1	-	78.95
S-21260	1500ct	12ct	3	2.0	1.5	.03	2.5	120	1.32	.33	11.18:1	22.36:1	75.93
S-21265	1500ct	500ct	125	2.0	1.5	.03	2.5	120	55	13.75	1.73:1	3.46:1	75.93
S-21270	*1500ct	600ct	-	2.0	1.5	.03	2.5	120	66	-	1.58:1	-	78.95
S-21275	*1500ct	1500ct	-	2.0	1.5	.03	2.5	120	165	-	1:1	-	78.95
S-21280	1600ct	12.8ct	3.2	2.0	1.5	.03	2.5	128	1.41	.35	11.18:1	22.36:1	75.93
S-21283	2000ct	8ct	2	2.0	1.5	.03	2.2	160	.88	.22	15.8:1	31.6:1	75.93
S-21285	2000ct	2000ct	500	2.0	1.5	.03	2.2	160	220	55	1:1	2:1	75.93
S-21290	*2000ct	2000ct	-	2.0	1.5	.03	2.2	160	220	-	1:1	-	78.95
S-21295	2000ct	8000ct	2000	2.0	1.5	.03	2.2	160	880	220	1:2	1:1	78.95
S-21297	2500ct	2500ct	625	2.0	1.5	.03	2	200	275	69	1:1	2:1	78.95
S-21300	3000ct	3000ct	750	2.0	1.5	.03	1.8	240	330	83	1:1	2:1	78.95
S-21305	*3000ct	3000ct	-	2.0	1.5	.03	1.8	240	330	-	1:1	-	78.95
S-21310	3600ct	3600ct	900	2.0	1.5	.03	1.7	288	396	99	1:1	2:1	78.95
S-21312	4000ct	16ct	4	2.0	1.5	.03	1.6	320	1.76	.44	15.8:1	31.6:1	78.95
S-21314**	4000ct	600ct	150	2.0	1.5	.03	1.6	320	66	16.5	2.58:1	5.16:1	78.95
S-21315	4000ct	1000ct	250	2.0	1.5	.03	1.6	320	110	27.5	2:1	4:1	78.95
S-21320	*4000ct	8000ct	-	2.0	1.5	.03	1.6	320	880	-	1:1.41	-	78.95
S-21325	5000ct	500ct	125	2.0	1.5	.03	1.4	400	55	13.8	3.16:1	6.32:1	75.93
S-21330	5000ct	5000ct	1250	2.0	1.5	.03	1.4	400	550	138	1:1	2:1	75.93
S-21335	7500ct	50ct	12.5	1.3	1.3	.03	1.2	600	5.5	1.38	12.25:1	24.5:1	84.09
S-21340	7500ct	100ct	25	1.3	1.3	.03	1.2	600	11	2.75	8.66:1	17.32:1	84.09
S-21345	7500ct	600ct	150	1.3	1.3	.03	1.2	600	66	16.5	3.54:1	7.07:1	77.72

S-21350	7500ct	2500ct	625	1.3	1.3	.03	1.2	600	275	69	1.73:1	3.46:1	84.09
S-21355	*7500ct	7500ct	-	1.3	1.3	.03	1.2	600	825	-	1:1	-	90.90
S-21360	8000ct	12.8ct	3.2	1.2	1.2	.03	1.1	640	1.4	.35	25:1	50:1	84.09
S-21365	8000ct	1000ct	250	1.2	1.2	.03	1.1	640	110	27.5	2.83:1	5.66:1	84.09
S-21370	*8000ct	1200ct	-	1.2	1.2	.03	1.1	640	132	-	2.58:1	-	90.90
S-21375	*9000ct	9000ct	-	1.1	1.1	.03	1.1	720	990	-	1:1	-	90.90
S-21380	10,000ct	12.8ct	3.2	1.0	1.0	.03	1	800	1.4	.35	28:1	56:1	84.09
S-21385	10,000ct	16ct	4	1.0	1.0	.03	1	800	1.76	.44	25:1	50:1	84.09
S-21390	10,000ct	100ct	25	1.0	1.0	.03	1	800	11	2.75	10:1	20:1	84.09
S-21395	10,000ct	200ct	50	1.0	1.0	.03	1	800	22	5.5	7.07:1	14.14:1	84.09
S-21400	10,000ct	500ct	125	1.0	1.0	.03	1	800	55	13.75	4.47:1	8.94:1	84.09
S-21405	10,000ct	600ct	150	1.0	1.0	.03	1	800	66	16.5	4.08:1	8.16:1	84.09
S-21410	10,000ct	1000ct	250	1.0	1.0	.03	1	800	110	27.5	3.16:1	6.32:1	84.09
S-21415	10,000ct	1200ct	300	1.0	1.0	.03	1	800	132	33	2.89:1	5.77:1	84.09
S-21420	10,000ct	1500ct	375	1.0	1.0	.03	1	800	165	41.3	2.58:1	5.16:1	84.09
S-21425	10,000ct	2000ct	500	1.0	1.0	.03	1	800	220	55	2.24:1	4.47:1	84.09
S-21430	10,000ct	5000ct	1250	1.0	1.0	.03	1	800	550	138	1.41:1	1.83:1	84.09
S-21435	10,000ct	7500ct	1875	1.0	1.0	.03	1	800	825	206	1.16:1	2.31:1	84.09
S-21440	10,000ct	10,000ct	2500	1.0	1.0	.03	1	800	1100	275	1:1	2:1	84.09
S-21445	*10,000ct	10,000ct	-	1.0	1.0	.03	1	800	1100	-	1:1	-	90.90
S-21450	15,000ct	400ct	100	.65	.65	.03	.8	1200	44	11	6.12:1	12.25:1	84.09
S-21452	15,000ct	500ct	125	.65	.65	.03	.8	1200	55	13.8	5.48:1	10.95:1	84.09
S-21455	15,000ct	600ct	150	.65	.65	.03	.8	1200	66	16.5	5:1	10:1	84.09
S-21460	15,000ct	10,000ct	2500	.65	.65	.03	.8	1200	1100	275	1.22:1	2.45:1	84.09
S-21465	*15,000ct	15,000ct	-	.65	.65	.03	.8	1200	1650	-	1:1	-	90.90

**Ultra Miniature Transformers:  
S Series**

Pico Part Number	Prim. Imped. Ohms	Sec. Imped. Ohms Split Windings		Power Watts			Prim. Unbal. DC Curr. ma	Prim. DC Resist. Ohms	Sec. DC Resist. Ohms		Turns Ratio Prim/Sec.		Prices 1-9 *** (US \$)
		SER	PAR	1 KHz and higher	300 Hz and higher	50 Hz and higher			Ser Conn	Par Conn	Sec Ser Conn	Sec Par Conn	

S-21470	15,000ct	15,000ct	3750	.65	.65	.03	.8	1200	1650	413	1:1	2:1	84.09
S-21475	16,000ct	1000ct	250	.62	.62	.03	.8	1280	110	27.5	4:1	8:1	84.09
S-21480	20,000ct	500ct	125	.5	.5	.03	.7	1600	55	13.8	6.32:1	12.65:1	90.90
S-21485	20,000ct	600ct	150	.5	.5	.03	.7	1600	66	16.5	5.77:1	11.55:1	90.90
S-21490	20,000ct	800ct	200	.5	.5	.03	.7	1600	88	22	5:1	10:1	90.90
S-21495	20,000ct	1000ct	250	.5	.5	.03	.7	1600	110	27.5	4.47:1	8.94:1	90.90
S-21500	20,000ct	5000ct	1250	.5	.5	.03	.7	1600	550	138	2:1	4:1	90.90
S-21505	20,000ct	10,000ct	2500	.5	.5	.03	.7	1600	1100	275	1.41:1	2.83:1	90.90
S-21510	*20,000ct	20,000ct	-	.5	.5	.03	.7	1600	2200	-	1:1	-	93.62
S-21515	25,000ct	500ct	125	.4	.4	.03	.6	2000	55	13.8	7.07:1	14.14:1	90.90
S-21520	25,000ct	1000ct	250	.4	.4	.03	.6	2000	110	27.5	5:1	10:1	90.90
S-21525	30,000ct	50ct	12.5	.33	.33	.03	.6	2400	5.5	1.38	24.5:1	49:1	93.62
S-21530	30,000ct	1200ct	300	.33	.33	.03	.6	2400	132	33	5:1	10:1	93.62
S-21532	30,000ct	500ct	125	.33	.33	.03	.6	2400	55	13.8	7.7:1	15.5:1	93.62
S-21534	30,000ct	200ct	50	.33	.33	.03	.6	2400	22	5.5	12.2:1	24.5:1	93.62
S-21535	30,000ct	5000ct	1250	.33	.33	.03	.6	2400	550	137.5	2.45:1	4.9:1	63.92
S-21540	30,000ct	10,000ct	2500	.33	.33	.03	.6	2400	1100	275	1.73:1	3.46:1	93.62
S-21545	*30,000ct	30,000ct	-	.33	.33	.03	.6	2400	3300	-	1:1	-	100.65
S-21550	40,000ct	400ct	100	.25	.25	.03	.5	3200	44	11	10:1	20:1	100.65
S-21555	40,000ct	2000ct	500	.25	.25	.03	.5	3200	220	55	4.47:1	8.94:1	100.65
S-21560	40,000ct	4000ct	1000	.25	.25	.03	.5	3200	440	110	3.16:1	6.32:1	100.65
S-21565	40,000ct	20,000ct	5000	.25	.25	.03	.5	3200	2200	550	1.41:1	2.83:1	100.65
S-21570	*40,000ct	40,000ct	-	.25	.25	.03	.5	3200	4400	-	1:1	-	112.10
S-21575	50,000ct	200ct	50	.2	.2	.03	.4	4000	22	5.5	15.8:1	31.6:1	112.10
S-21577	50,000ct	500ct	125	.2	.2	.03	.4	4000	55	13.8	10:1	20:1	112.10
S-21578	50,000ct	600ct	150	.2	.2	.03	.4	4000	66	16.5	9.13:1	18.26:1	112.10
S-21579	50,000ct	50,000ct	12,500	.2	.2	.03	.4	4000	5500	1380	1:1	2:1	112.10
S-21580	60,000ct	15,000ct	3750	.16	.16	.03	.4	4800	1650	413	2:1	4:1	113.10
S-21585	62,500ct	50ct	12.5	.16	.16	.03	.4	5000	5.5	1.38	35.4:1	70.7:1	113.10
S-21587	80,000ct	15,000ct	3750	.12	.12	.03	.3	6400	1650	413	2.3:1	4.6:1	113.10
S-21590	90,000ct	10,000ct	2500	.11	.11	.03	.3	7200	1100	275	3:1	6:1	127.07
S-21595	95,000ct	15,000ct	3750	.1	.1	.03	.3	7600	1650	413	2.5:1	5:1	127.07
S-21600	100,000ct	60ct	15	.1	.1	.03	.3	8000	6.6	1.65	40.8:1	81.6:1	127.07
S-21605	100,000ct	100ct	25	.1	.1	.03	.3	8000	11	2.75	31.6:1	63.2:1	127.07
S-21610	100,000ct	500ct	125	.1	.1	.03	.3	8000	55	13.8	14.1:1	28.3:1	127.07
S-21613	100,000ct	1000ct	250	.1	.1	.03	.3	8000	110	27.5	10:1	20:1	127.07
S-21614	100,000ct	2000ct	500	.1	.1	.03	.3	8000	220	55	7.07:1	14.14:1	127.07
S-21615	100,000ct	10,000ct	2500	.1	.1	.03	.3	8000	1100	275	3.16:1	6.32:1	127.07
S-21620	135,000ct	82ct	20.5	.07	.07	.03	.2	10,800	9	2.25	40.6:1	81.2:1	132.76

\*Includes electrostatic shield

\*\*Miniaturized telephone coupling application

[For Surface Mount Versions of this series click here](#)

**\*\*\*Discount Prices:**

- 1-9 Net;
- 10-24 less 10%;
- 25-49 less 16%;
- 50-99 less 23%;
- 100-499 less 30%

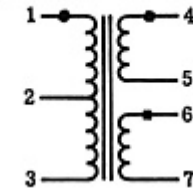
**Ordering Instructions:**

- No minimum.
- Net 30 days F.O.B. Pelham, NY
- **Delivery - stock to one week for sample orders.**

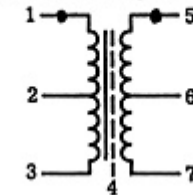
**FEATURES**

- Extreme resistance to thermal shock
- Ultra miniature size
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- Magnetic Shields available
- Electrostatic shielding can be added
- Variation of standard designs available
- Primary and secondary windings can be used either as input or output.
- Special production techniques ensure uniform size and leads which are free of encapsulant. No meniscus in lead area.
- Every unit can be made with a 300 thermal cycle guarantee using PICO's special SR construction. Contact factory for details.

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