

I²L Chip



0603 Series Resistor-Capacitor

GENERAL DESCRIPTION

To meet the needs of today's high speed circuits and reduced power requirements, AVX has developed the I²L Chip. This impedance matching component, available in a standard 0603 package, breaks the barrier of component density by providing a truly integrated series resistor-capacitor design.

The I²L Chip enables a board designer to achieve maximum signal integrity by eliminating reflections and reducing DC power consumption.

FEATURES

- Low Profile
- Surface Mountable
- Volumetrically Efficient
- Several Standard Designs
- Custom Designs Available

HOW TO ORDER

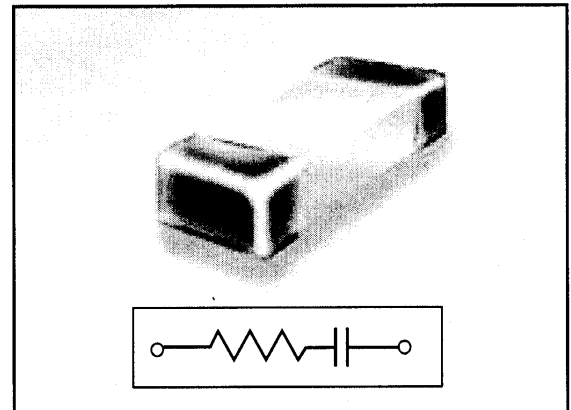
Z	1	D	1	3	Y	101	M	470	K	A	T	2	A
I ² L Chip	Size 1 = 0603	D=Discrete	Number of Elements	Voltage Code 3 = 25V	Dielectric Y = 0±500 ppm/°C	Capacitor Code	Capacitor Tolerance Code M = ±20%	Resistor Code	Resistor Tolerance Code K = ±10%	A = Not Applicable	Termination Code T = Plated Ni and Solder	Pack Code 2 = 7" Reel Paper Tape	Special Code A = Standard Product

STANDARD PART VALUES

		Capacitance						
		10pF	15pF	22pF	33pF	47pF	68pF	100pF
Resistance	10 Ω							
	15 Ω							
	22 Ω							
	33 Ω							
	47 Ω							Stock
	51 Ω						Stock	
	68 Ω							
	100 Ω					Stock		

PERFORMANCE CHARACTERISTICS

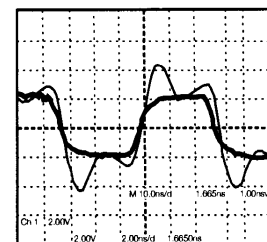
Capacitance Performance Dielectric, TCC Capacitor Values Capacitor Tolerance WVDC DF (1kHz)	0±500 ppm/°C 10, 15, 22, 33, 47, 68, 100 ±20% 25V 2.5% Max.
Resistor Performance Resistor Values Tolerance TCR	10, 15, 22, 33, 47, 68, 100 ±10% ±250 ppm/°C



APPLICATIONS

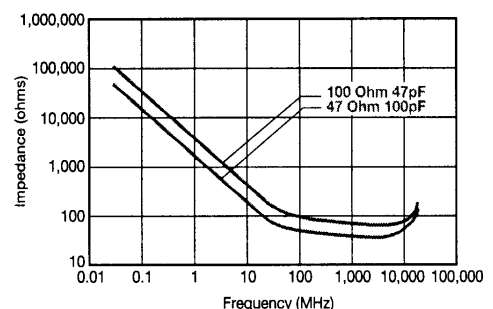
- AC Line Termination
- Impedance Matching
- Timing Circuits
- Low Power Snubber

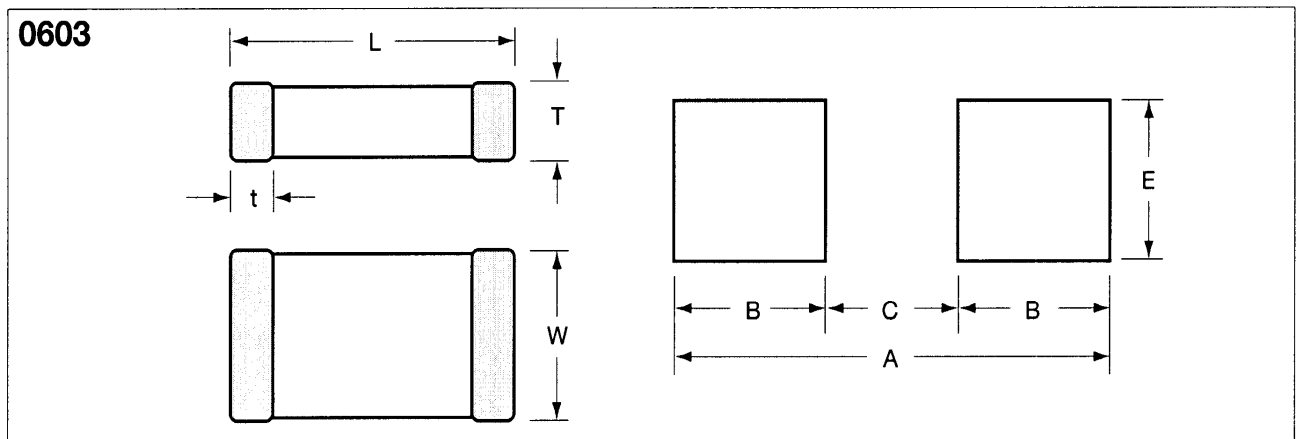
I²L CHIP TERMINATION OF AN 80 MHZ TRANSMISSION LINE



Ringing in an 80 MHz clock pulse (light line) is eliminated when terminated with a 100pF/47 ohm I²L Chip (bold line)

IMPEDANCE CHARACTERISTICS





PART DIMENSIONS

	L	W	T	t
mm	1.6±0.2	.81±0.15	.90 max.	0.35±0.15
(inches)	(.063±.006)	(.032±.006)	(.035 max.)	(.014±.006)

PAD LAYOUT DIMENSIONS

A	B	C	D	E
2.30	0.76	0.76	0.76	0.76
(.090)	(.030)	(.030)	(.030)	(.030)

ASSEMBLY NOTES

AVX recommends a minimum spacing of 0.020" between parts when placing them end to end on assembly boards. The purpose of this spacing is to facilitate post assembly

board cleaning and inaccuracies in pick and placement, due to machine placement tolerances.

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USA

AVX Myrtle Beach, SC
Corporate Offices
Tel: 843-448-9411
FAX: 843-448-1943

AVX Northwest, WA
Tel: 360-669-8746
FAX: 360-699-8751

AVX North Central, IN
Tel: 317-848-7153
FAX: 317-844-9314

AVX Northeast, MA
Tel: 508-485-8114
FAX: 508-485-8471

AVX Mid-Pacific, CA
Tel: 408-436-5400
FAX: 408-437-1500

AVX Southwest, AZ
Tel: 602-539-1496
FAX: 602-539-1501

AVX South Central, TX
Tel: 972-669-1223
FAX: 972-669-2090

AVX Southeast, NC
Tel: 919-878-6357
FAX: 919-878-6462

AVX Canada
Tel: 905-564-8959
FAX: 905-564-9728

EUROPE

AVX Limited, England
European Headquarters
Tel: ++44 (0)1252 770000
FAX: ++44 (0)1252 770001

AVX S.A., France
Tel: ++33 (1) 69.18.46.00
FAX: ++33 (1) 69.28.73.87

AVX GmbH, Germany - AVX
Tel: ++49 (0) 8131 9004-0
FAX: ++49 (0) 8131 9004-44

AVX GmbH, Germany - Elco
Tel: ++49 (0) 2741 2990
FAX: ++49 (0) 2741 299133

AVX srl, Italy
Tel: ++390 (0)2 614571
FAX: ++390 (0)2 614 2576

AVX sro, Czech Republic
Tel: ++420 (0)467 558340
FAX: ++420 (0)467 558345

ASIA-PACIFIC

AVX/Kyocera, Singapore
Asia-Pacific Headquarters
Tel: (65) 258-2833
FAX: (65) 350-4880

AVX/Kyocera, Hong Kong
Tel: (852) 2-363-3303
FAX: (852) 2-765-8185

AVX/Kyocera, Korea
Tel: (82) 2-785-6504
FAX: (82) 2-784-5411

AVX/Kyocera, Taiwan
Tel: (886) 2-2696-4636
FAX: (886) 2-2696-4237

AVX/Kyocera, China
Tel: (86) 21-6249-0314-16
FAX: (86) 21-6249-0313

AVX/Kyocera, Malaysia
Tel: (60) 4-228-1190
FAX: (60) 4-228-1196

Elco, Japan
Tel: 045-943-2906/7
FAX: 045-943-2910

Kyocera, Japan - AVX
Tel: (81) 75-604-3426
FAX: (81) 75-604-3425

Kyocera, Japan - KDP
Tel: (81) 75-604-3424
FAX: (81) 75-604-3425