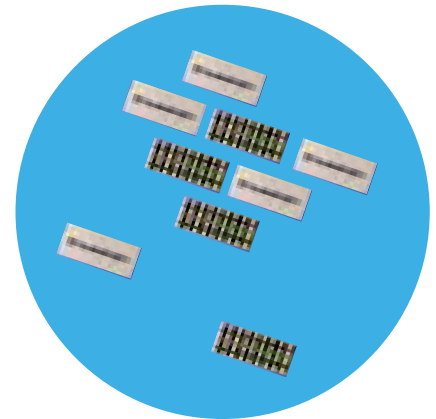


## BB1110TB, BB1110B, BB1110I and BB2110DI DDR SDRAM Terminator Networks

### BB 1110 / 2110 Series

- 18 Bit SSTL\_2 Termination Sets.
- Compliant to JEDEC Std. 8-9B.
- Superior High Frequency Performance.
- Minimal stray capacitance and inductance are achieved by placing resistors and BGA termination on the same side of ceramic substrate.
- The device can be easily surface mounted using automatic Pick and Place equipment



 All Pb-free parts comply with EU Directive 2011/65/EU (RoHS2)

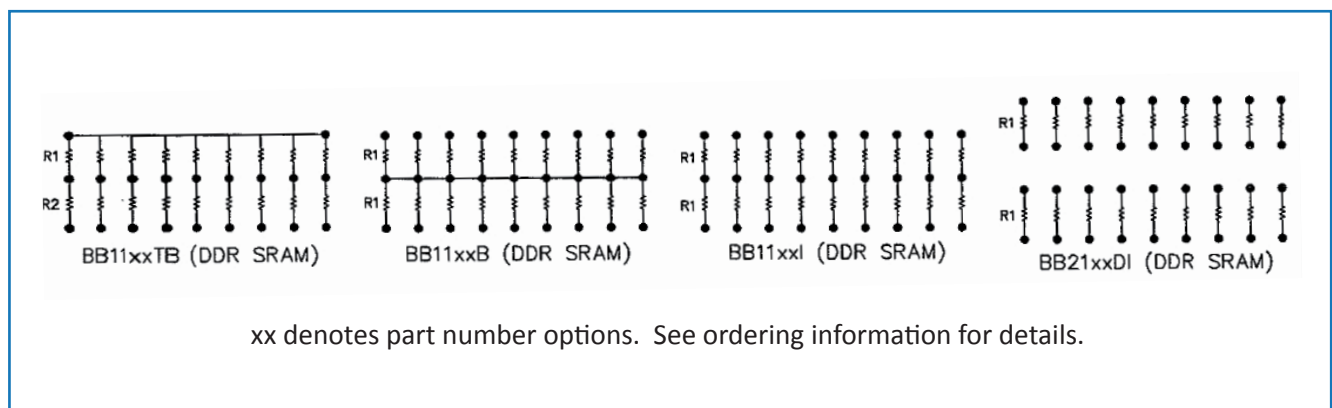
## Description

This “BB” family of networks is for terminating SSTL\_2 Class I and Class II systems, such as DDR SDRAM. These specialty networks employ solder balls for surface mount flip chip attachment. Their unique construction yields extremely low capacitance and inductance parasitics making them ideal for high-speed bus applications.

## Electrical

Parameter (Maximum)	Limit	Units
Resistance, Nominal	Various	$\Omega$
Absolute Tolerance	1	%
Temperature Coefficient of Resistance	200	ppm/ $^{\circ}\text{C}$
Interlead Capacitance, Maximum	0.1	pF
Operation Temperature	-55 to 125	$^{\circ}\text{C}$
Power Rating (per package)	1	watt

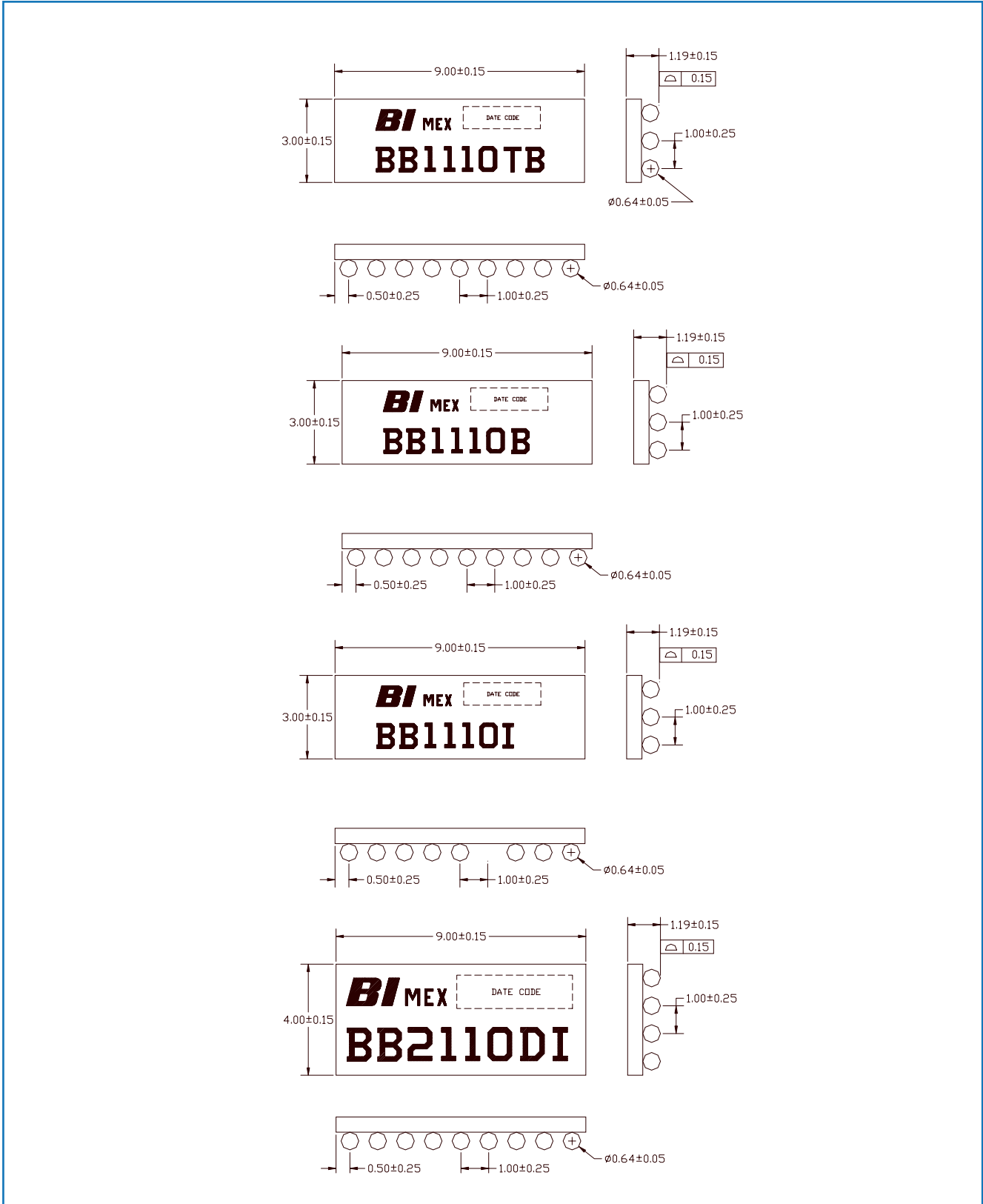
## Schematic



### General Note

TT Electronics reserves the right to make changes in product specification without notice or liability. All information is subject to TT Electronics' own data and is considered accurate at time of going to print.

## Dimensions (mm)



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## Ordering Information

Part Number	Resistor Number	Resistor value ( $\Omega$ )	Array	Pitch (mm)	Tape/Reel Capacity 7"	Tape/Reel Capacity 13"
BB1110TB	R1/R2	50/25	3X9	1.0	1000	4000
BB1111TB	R1/R2	25/22	3X9	1.0	1000	4000
BB1112TB	R1/R2	60/25	3X9	1.0	1000	4000
BB1113TB	R1/R2	60/60	3X9	1.0	1000	4000
BB1110B	R1	50	3X9	1.0	1000	4000
BB1111B	R1	100	3X9	1.0	1000	4000
BB1112B	R1	25	3X9	1.0	1000	4000
BB1110DI	R1	25	4X9	1.0	1000	4000
BB1111DI	R1	22	4X9	1.0	1000	4000
BB1112DI	R1	33	4X9	1.0	1000	4000
BB1113DI	R1	47	4X9	1.0	1000	4000
BB1110I	R1	25	3X9	1.0	1000	4000

Add 7 for 7-inch reel or 13 for 13-inch reel to part number.

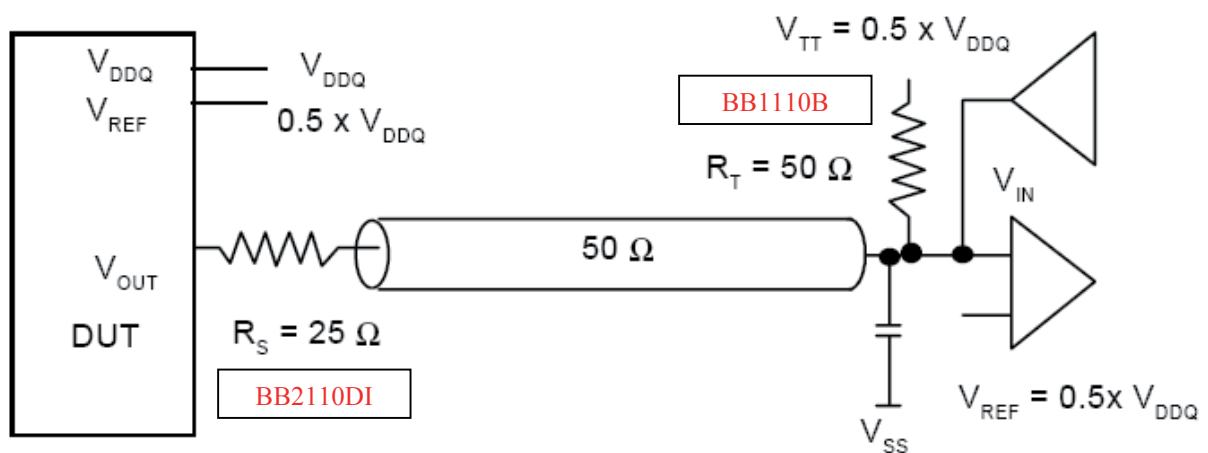
Example:

BB1110B7 (1000 parts packaged in 7 inch reel)

BB1110B13 (4000 parts packaged in 13 inch reel)

## Application Notes

Schematics per JEDEC Standard No. 8-9B.

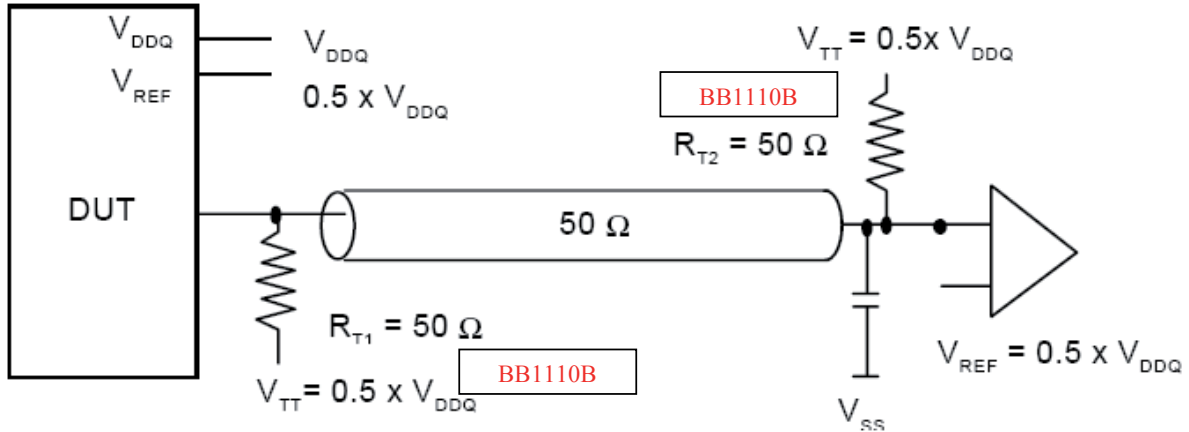


SSTL\_2, Class I, symmetrically single parallel terminated output load, and series resistor

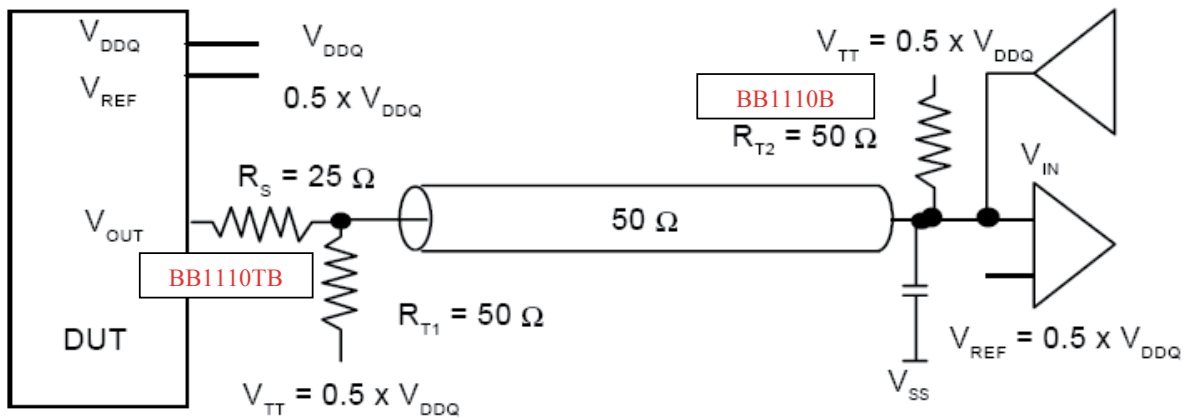
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BB 1110 / 2110 Series



SSTL\_2, Class I, buffer with symmetrically double parallel terminated output load



SSTL\_2, Class II, symmetrically double parallel terminated output load with series resistor

**General Note**

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