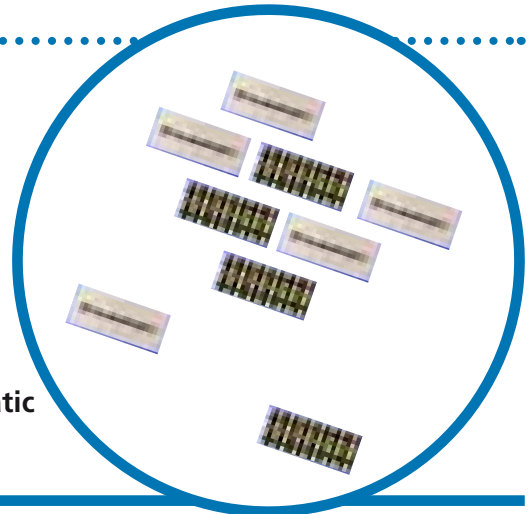


BB110TB, BB110B, BB110I and BB210DI DDR SDRAM

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**



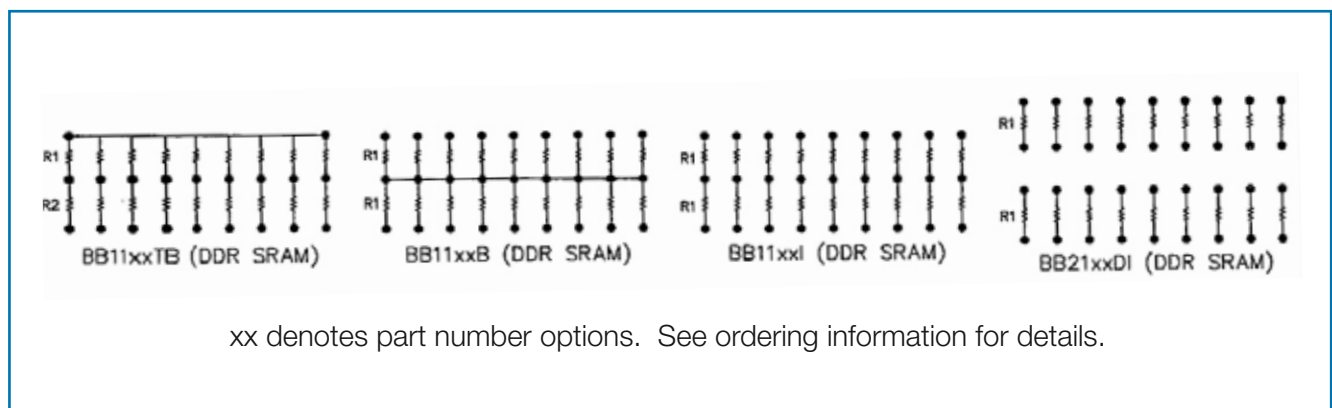
Description

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 | Ω |
| Absolute Tolerance | 1 | % |
| Temperature Coefficient of Resistance | 200 | ppm/°C |
| Interlead Capacitance, Maximum | 0.1 | pF |
| Operation Temperature | -55 to 125 | °C |
| Power Rating (per package) | 1 | watt |

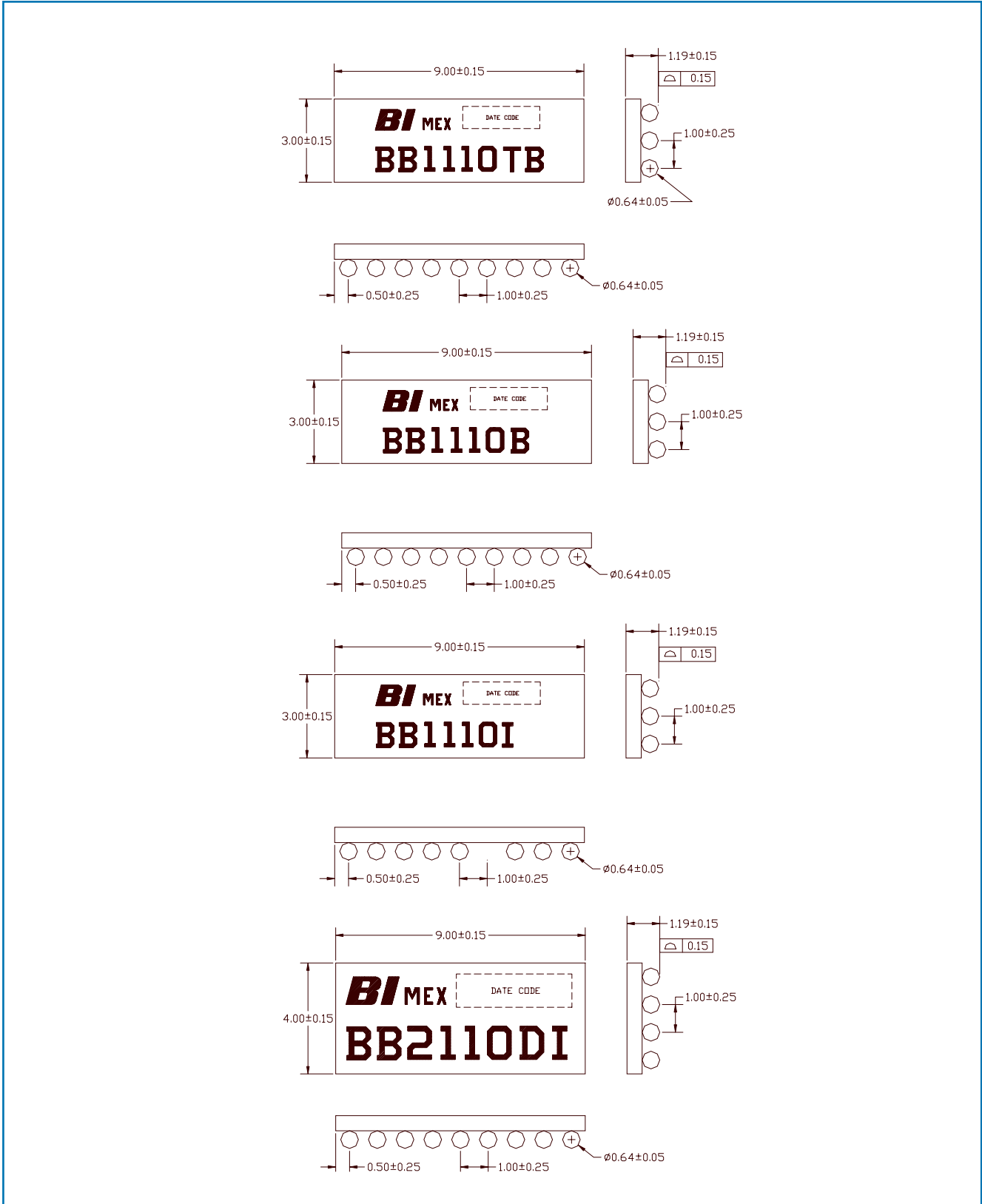
Schematic



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)



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.

Ordering Information

| Part Number | Resister Number | Resister value (Ω) | 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.

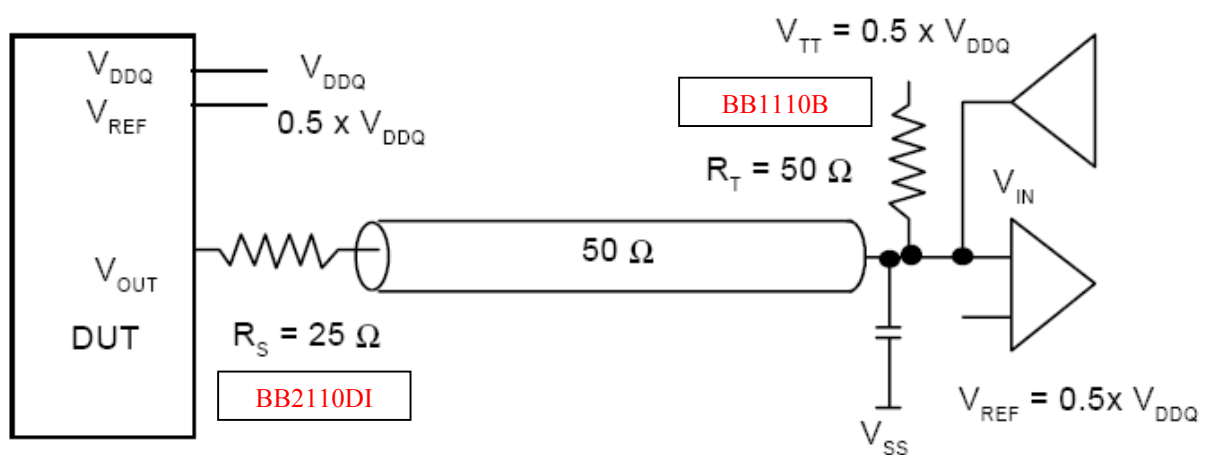
Example:

BB1110B7 (1000 parts packaged in 7 inch reel)

BB1110B13 (4000 parts packaged in 13 inch reel)

Application Notes

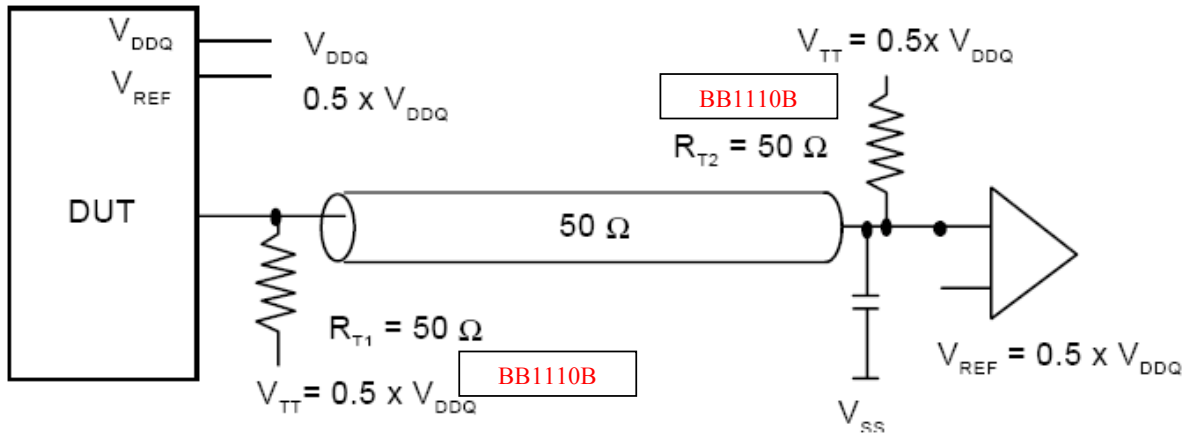
Schematics per JEDEC Standard No. 8-9B.



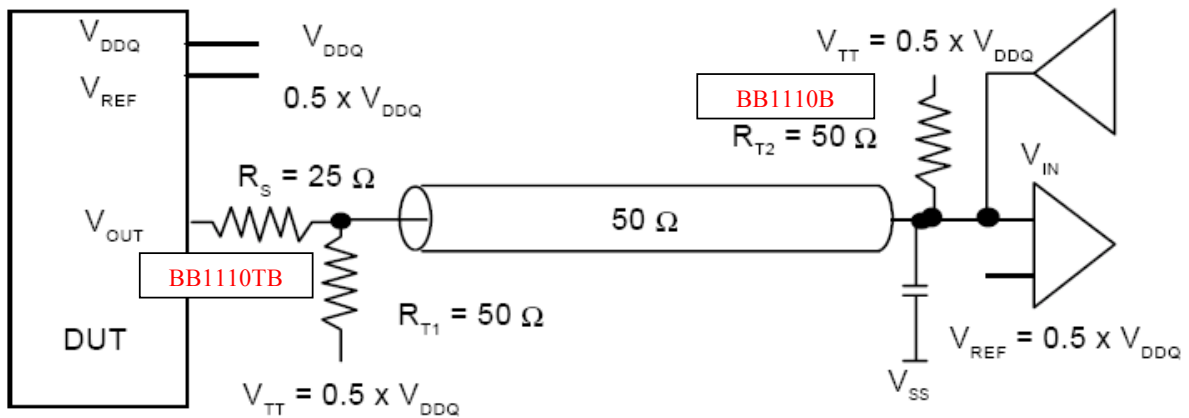
SSTL_2, Class I, symmetrically single parallel terminated output load, and series resistor

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.



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

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.