

Dual staked MIL-STD 1553 Interface Transformers - SBIT x 7.5S



- As per MIL-STD 1553 B
- Meet all the electrical requirements of Manchester II serial bi-phase data transmission, 1 MHz operation
- Epoxy molding in accordance with outgassing requirements of ECSS-Q-ST-70-02C
- Applied standards: ESCC 3201 generic specification for space products
- Open-circuit impedance greater than 3kΩ (4kΩ typical value) from 75KHz to 1MHz
- Frequency range 75KHz to 1MHz
- Operating temperature range: -55 °C to +125 °C
- Weight: <5grams

Electrical Data (25°C)

| Parameter | Unit | SBIT 1 7.5S | SBIT 2 7.5S | SBIT 3 7.5S | SBIT 4 7.5S | SBIT 5 7.5S | SBIT 6 7.5S | SBIT 7 7.5S | SBIT 8 7.5S | |
|------------------------------------|------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|--|
| Frequency Response | | | | | | | | | | |
| Operating Range | kHz | 75 to 1000 | 75 to 1000 | 75 to 1000 | 75 to 1000 | 75 to 1000 | 75 to 1000 | 75 to 1000 | 75 to 1000 | |
| Common-Mode Rejection (min) | | | | | | | | | | |
| | dB | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | |
| Electrical Requirements | | | | | | | | | | |
| Terminal Winding Resistance Rdc | | | | | | | | | | |
| • 1-3 / (11-13) (max) | Ω | 3.5 | 3 | 1.9 | 1 | 1 | 1.2 | 3.2 | 1 | |
| • 4-8 / (14-18) (max) | Ω | 3 | 3 | 1.9 | 3 | 3 | 3 | 3 | 3 | |
| Interwinding Capacitance (max) | pF | 70 | 30 | 70 | 45 | 45 | 70 | 70 | 70 | |
| Winding Inductance | | | | | | | | | | |
| • LM (min) | mH | 7.5 | 7.5 | 7.5 | 6.0 | 6.0 | 8.0 | 8.0 | 6.0 | |
| • LL (max) | μH | 6.0 | 6.0 | 6.0 | 8.0 | 6.0 | 8.0 | 6.0 | 7.0 | |
| Peak-to-Peak Voltage (max) | | | | | | | | | | |
| Terminals 1-3 primary | Vpp | 60 | 60 | 60 | 38 | 38 | 39 | 60 | 44 | |
| Droop (max) | | | | | | | | | | |
| 3 ms Pulse Duration | | | | | | | | | | |
| 140 Ω Load Across Terminals 4-8 | % | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | |
| Decay Time (max) | | | | | | | | | | |
| 140 Ω Load Across Terminals 4-8 | ns | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | |
| Backswing | | | | | | | | | | |
| 140 Ω Load Across Terminals 4-8 | % | none | none | none | none | none | none | none | none | |
| Turns Ratios | | | | | | | | | | |
| Terminals | | | | | | | | | | |
| • 1-3 : 4-8 / 11-13 : 14-18 | | 1.4 : 1 | 1 : 1 | 1.20 : 1 | 1 : 2.5 | 1 : 2.5 | 1 : 3.2 | 1.25 : 1 | 1 : 2.12 | |
| • 1-3 : 5-7 / 11-13 : 15-13 | | 2 : 1 | 1 : 0.707 | 1.67 : 1 | 1 : 1.75 | 1 : 1.79 | 1 : 2.3 | 1.66 : 1 | 1 : 1.5 | |

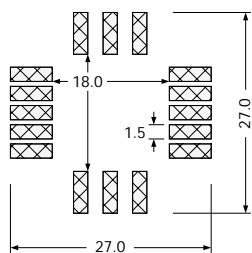
To Order

| SBIT | # | 7.5 | S |
|-------|-------------|-----------------|-------|
| Range | Part 1 to 8 | Case height 7.5 | S SMD |

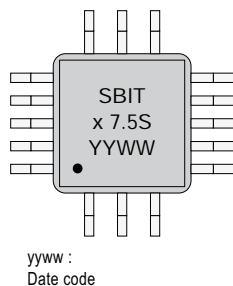
Notes

Interwinding insulation: 500Vrms-500 Hz.
Flammability compliance: UL94V0.

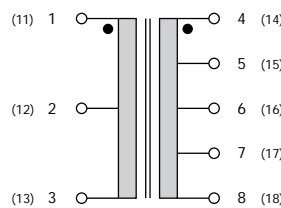
PCB Layout (suggested)



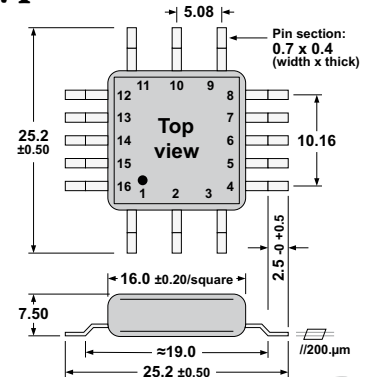
Marking



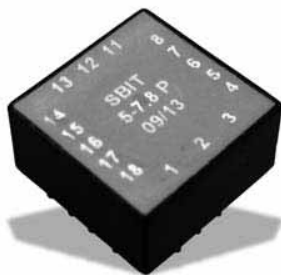
Connections



Typical Dimensions (mm)



Dual staked MIL-STD 1553 Interface Transformers - SBIT x 7.8P



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- Meet all the electrical requirements of Manchester II serial bi-phase data transmission, 1 MHz operation
- Epoxy molding in accordance with outgassing requirements of ECSS-Q-70-02, MILT 21038
- Open-circuit impedance greater than $3k\Omega$ ($4k\Omega$ typical value) from 75kHz to 1 MHz
- Frequency range 75kHz to 1 MHz
- Operating temperature range: -55°C to $+125^{\circ}\text{C}$
- Weight: <5grams

Electrical Data (25°C)

| Parameter | Unit | SBIT 1 7.8P | SBIT 2 7.8P | SBIT 3 7.8P | SBIT 5 7.8P | SBIT 7 7.8P | SBIT 8 7.8P |
|------------------------------------|---------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Frequency Response | | | | | | | |
| Operating Range | kHz | 75 to 1000 | 75 to 1000 | 75 to 1000 | 75 to 1000 | 75 to 1000 | 75 to 1000 |
| Common-Mode Rejection (min) | | | | | | | |
| | dB | 45 | 45 | 45 | 45 | 45 | 45 |
| Electrical Requirements | | | | | | | |
| Terminal Winding Resistance Rdc | | | | | | | |
| • 1-3 (max) | Ω | 2.8 | 2.8 | 2.8 | 2 | 2.8 | 2.2 |
| • 4-8 (max) | Ω | 3 | 3.5 | 3 | 3.5 | 3 | 3.5 |
| Interwinding Capacitance (max) | pF | 50 | 50 | 50 | 50 | 50 | 50 |
| Winding Inductance | | | | | | | |
| • LM (min) (1-3) | mH | 7.0 | 7.0 | 7.0 | 7.0 (4-8) | 8.0 | 7.0 (4-8) |
| • LL (max) | μH | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 |
| Turns Ratios | | | | | | | |
| Terminals | | | | | | | |
| • 1-3 : 4-8 | | 1.4 : 1 | 1 : 1 | 1.20 : 1 | 1 : 2.5 | 1.25 : 1 | 1 : 2.12 |
| • 1-3 : 5-7 | | 2 : 1 | 1 : 0.707 | 1.67 : 1 | 1 : 1.79 | 1.66 : 1 | 1 : 1.5 |

To Order

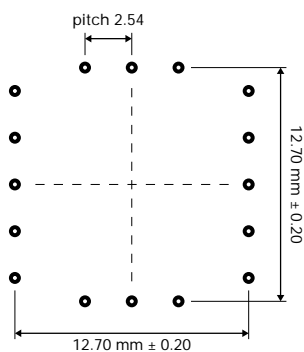
SBIT # 7.8P

| SBIT | # | 7.8 | P |
|-------|----------------------------|-----------------|---------------------|
| Range | Part 1 to 8 except 4 and 6 | Case height 7.8 | P pins through hole |

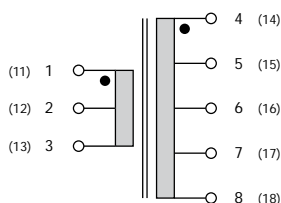
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Interwinding insulation : 500 Vrms-500 Hz.
Flammability compliance : UL94V0

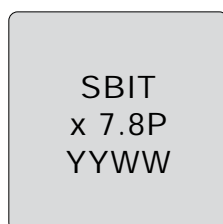
PCB Layout (suggested)



Connections



Marking



yyww :
Date code

Typical Dimensions (mm)

