

DESCRIPTION

The B3LT1018 is a 30kW solid state S-band high power limiter with an integral filter for protection against magnetron-generated spurious signals in marine radar systems. A triggered STC generator circuit is provided.

CHARACTERISTICS (at 20°C ambient) see notes 1 and 6

Frequency.....	3.02 to 3.08 GHz
Return loss.....	18 dB min
Insertion loss.....	1 dB max
Total peak leakage (P _o 30 kW)....	100 mW max
Recovery to -3 dB (P _o 10 kW).....	1 µs max
STC maximum (see note 2).....	20 dB
STC response:	
at 3.0µs (see note 3).....	10 ± 1.5 dB
at 11µs	1.5 dB max
Clutter saturation (see note 4)	5 dB max
STC bias voltage (see note 5)	4.25 V min

MAXIMUM AND MINIMUM RATINGS

	MIN	MAX	
Transmitter power:			
peak	-	30	kW
mean.....	-	30	W
Pulse duration.....	-	2.0	µs
Duty ratio	-	0.001	
STC circuit supply	11.5	12.5	V
STC trigger pulse.....	3.5	5.5	V
Ambient temperature:			
operating	-40	+90	°C
storage.....	-50	+90	°C

GENERAL

Outline.....	B3LT1018_SHT3
Overall dimensions.....	122 x 105 x 55.4 mm nom
Waveguide size	WG10 (WR284)
Connectors:	
waveguide.....	special
STC circuit.....	Lumburg 2.5MBC 3
Pin 1.....	Supply
Pin2.....	Trigger
Pin3.....	Earth

Mounting position.....	any
Net weight.....	1 kg approx.

NOTES

1. High power tests measured at 3.05 GHz, t_p 0.1, du 0.001, STC tests measured at 3.05 GHz, V_S +12 V, V_P +3.5 V, t_p 2 µs.
2. Attenuation level that the maximum attenuation from the STC generator circuit can be set to by variable resistor RV1.
3. Measured from the start of the STC ramp with maximum attenuation of 20 dB.
4. Change in the maximum attenuation of the STC curve due to 10 mW of incident power.
5. Voltage at the cathode of D1A when the attenuation is 20 dB. Design parameter only.
6. Maximum and minimum characteristic values may be exceeded at the temperature extremes. Contact e2v for details.
7. The components on the STC generator circuit are exposed and are static sensitive. Correct procedures for handling of such components are to be adhered to.
8. The STC circuit cable must be clamped on installation to minimise damage resulting from excessive flexing. The limiter must be mounted so that the EMC effects are contained.



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