DESCRIPTION

X band marine radar solid state 25 kW high power limiter with an integral filter for protection against magnetron-generated spurious signals. A triggered STC generator circuit is provided.

CHARACTERISTICS (T_{amb} = 20°C)(note 1)

Frequency	9.36 to 9.46	GHz.
Return loss	20	dB min.
Insertion loss	1	dB max.
Total peak leakage (Po -25 kW)	100	mW max.
Recovery to -3 dB (Po -25 kW)	1.3	µs max.
STC maximum (see note 2)	20	dB.
STC response at 3.0µs(see note 3)	10+/-1.5	dB.
11µs	1.5	dB max.
Clutter saturation (see note 4)	3	dB max.
STC bias voltage (see note 5)	4.25	V min.

MAXIMUM AND MINIMUM RATINGS

	MIN	MAX	
Peak continuous operating power		25	kW.
Mean operating power		25	W.
Pulse duration		1.5	µs.
Duty ratio		0.001	
STC circuit supply	11.5	12.5	V.
STC trigger pulse	3.5	5.5	V.
Storage temperature	-55	90	EC.
Operating temperature	-40	90	EC.

GENERAL (note 6)

Outline	B3LT1668#3
Overall dimension	49 x 41x 35mm
Waveguide size	WG16, WR90
Connectors:	
Waveguide	mates with UG39/U
STC circuit	Lumburg 2.5MBC 3
Pin 1	Supply
2	Trigger
3	Earth
Mounting position	Any (note 7)
Net weight	0.1Kg approx

NOTES

1. High power tests measured at 9.4GHz, tp 0.1, du0.001,
   STC tests measured at 9.4GHz, V_S +12V, V_P +3.5V, 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 20dB.
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. 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.
7. 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.