BCL016B-343

SUPER LOW NOISE PHEMT IN SOT-343 PACKAGE

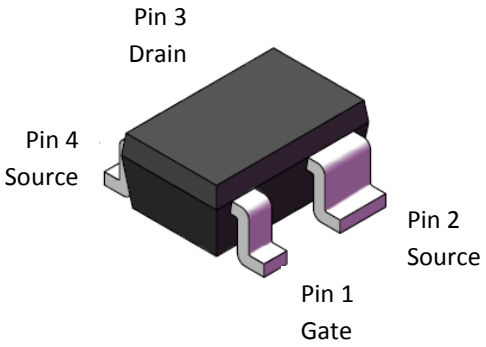
The BeRex BCL016B-343 is a GaAs super low noise pHEMT in a standard SOT-343 plastic package. It has a nominal 0.15 micron gate length and 160 micron gate width making the product ideally suited for applications requiring very low noise and high associated gain. The BCL016B-343 offers high insertion gain and a low noise figure for L to C band amplifiers applications.

PRODUCT FEATURES

- Low 0.2 dB typical noise figure @2.4 GHz
- High 18 dB Typical associated Gain @2.4 GHz
- Typical OIP3 21 dBm at 2.4 GHz
- Industry standard SOT-343 package

APPLICATIONS

- Satellite Radios
- L to C band low noise amplifiers
- Test & Measurement



ELECTRICAL CHARACTERISTICS (T_a = 25° C)

SYMBOL	PARAMETER/TEST CONDITIONS	FREQ.	MIN.	TYPICAL	MAX.	UNIT
NF	Noise Figure (Vds = 2V, Id = 10mA)	2.4 GHz 5.8 GHz		0.2 0.4		dB
G_A	Associated Gain (Vds = 2V, Id = 10mA)	2.4 GHz 5.8 GHz		18 13		dB
P1dB	Output Power @ p1dB (Vds = 2V, Id = 10mA)	2.4 GHz 5.8 GHz		10 10		dBm
OIP3	0 dBm output power/tone, 1 MHz spacing	2.4 GHz 5.8 GHz		21 21		dBm
I_{DSS}	Saturated Drain Current (Vgs = 0V, Vds = 2V)			50		mA
G_M	Transconductance (Vds = 2V, Vgs = -0.3V)			120		mS
V_P	Pinch-off Voltage (Vds = 2V, Id = 200µA)			-0.7		V
BV_{GD}	Gate-Drain Breakdown Voltage, (Ig = -200 µA, source open)			9		V
BV_{GS}	Gate-Source Breakdown Voltage, (Ig = -200 µA, drain open)			6		V

MAXIMUM RATING (T_a = 25° C)

SYMBOLS	PARAMETERS	ABSOLUTE MAX.
V_{DS}	Drain-Source Voltage	5 V
V_{GS}	Gate-Source Voltage	-3 V
I_{DS}	Drain Current	50 mA
I_{GSF}	Forward Gate Current	30 mA
P_{IN}	Input Power	20 dBm
T_{CH}	Channel Temperature	150° C
T_{STG}	Storage Temperature	-60° C - 150° C
P_T	Total Power Dissipation	200 mW

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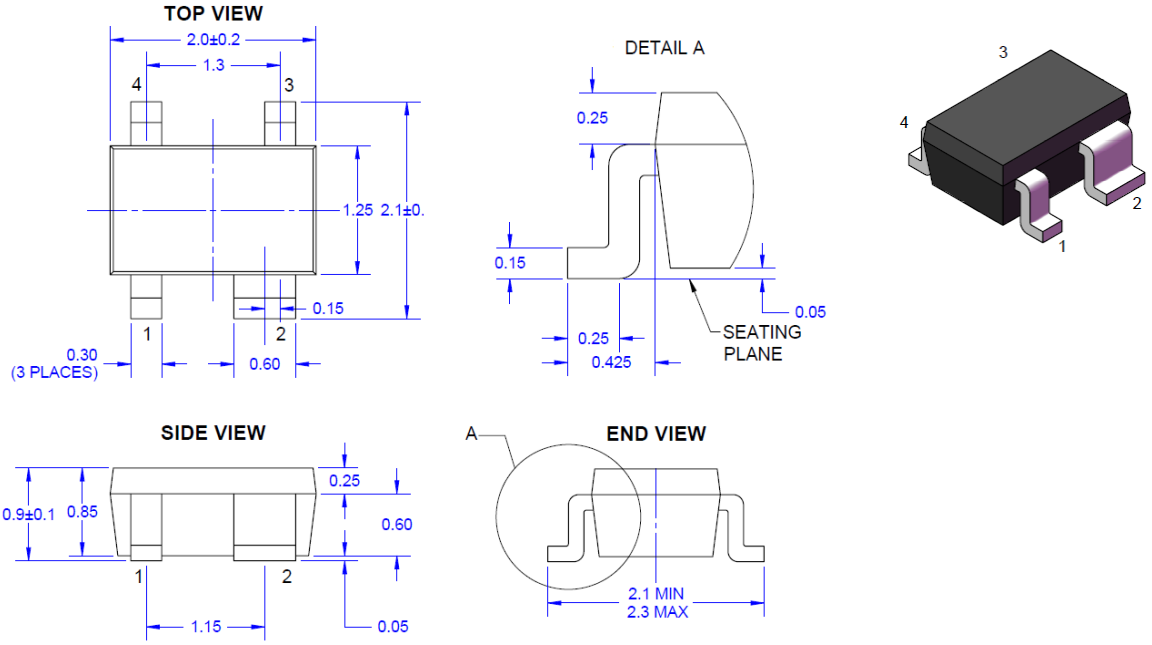
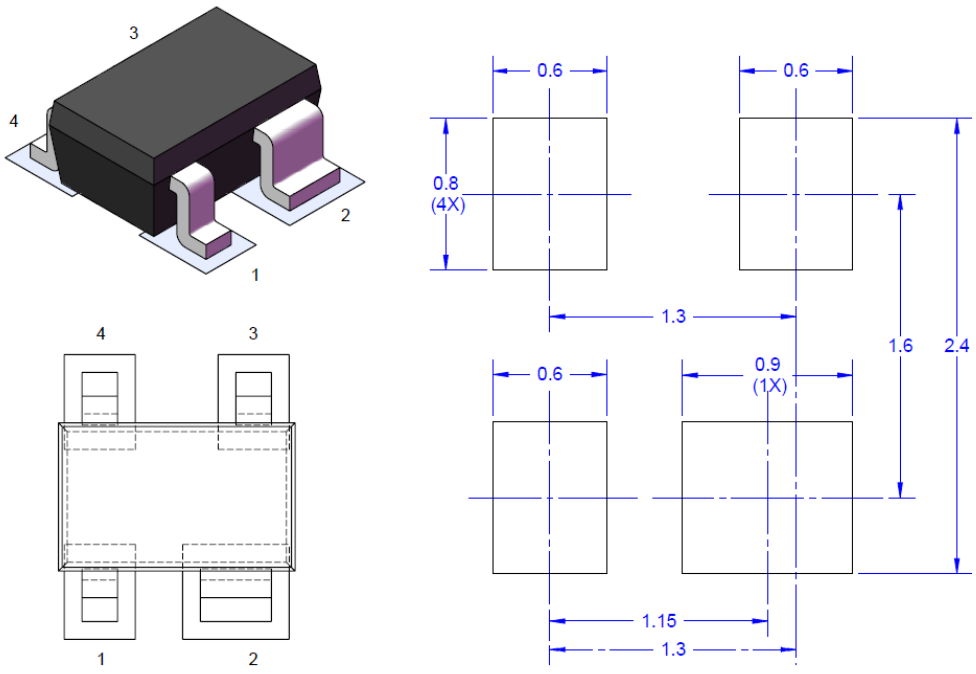
Exceeding any of the above Maximum Ratings will result in reduced MTTF and may cause permanent damage to the device.

PACKAGE DEMENSIONS in Millimeters (mm)



PC BOARD LAND PATTERN in Millimeters (mm)



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Proper ESD procedures should be followed when handling this device.

HANDLING PRECAUTIONS:

GaAs FETs are very sensitive to and may be damaged by Electrostatic Discharge (ESD). Therefore, proper ESD precautions must be taken whenever you are handling these devices. It is critically important that all work surfaces, and assembly equipment, as well as the operator be properly grounded when handling these devices to prevent ESD damage.

CAUTION:

THIS PRODUCT CONTAINS GALLIUM ARSENIDE (GaAs) WHICH CAN BE HAZARDOUS TO THE HUMAN BODY AND THE ENVIRONMENT. THEREFORE, IT MUST BE HANDLED WITH CARE AND IN ACCORDANCE WITH ALL GOVERNMENTAL AND COMPANY REGULATIONS FOR THE SAFE HANDLING AND DISPOSAL OF HAZARDOUS WASTE. DO NOT DO NOT BURN, DESTROY, CUT, CRUSH OR CHEMICALLY DISSOLVE THE PRODUCT. DO NOT LICK THE PRODUCT OR IN ANY WAY ALLOW IT TO ENTER THE MOUTH. EXCLUDE THE PRODUCT FROM GENERAL INDUSTRIAL WASTE OR GARBAGE AND DISPOSE OF ONLY IN ACCORDANCE TO APPLICABLE LAWS AND/OR ORDINANCES.

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