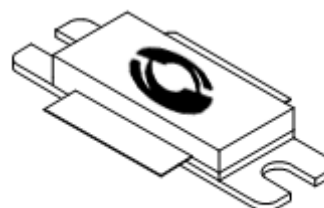


GENERAL DESCRIPTION

The 3135GN-400V is an internally matched, COMMON SOURCE, class AB, GaN on SiC HEMT S-band transistor capable of providing over 400 Watts output power under 200 μ s pulse width, 20% duty cycle pulsing format with over 13 dB gain across the 3100 to 3500 MHz band. This hermetically sealed transistor utilizes gold metallization and eutectic attach to provide highest reliability and superior ruggedness.

Market Application – High Power S-Band Pulsed Primary Radar

CASE OUTLINE 55-Q03 Common Source



ABSOLUTE MAXIMUM RATINGS

Maximum Power Dissipation

Device Dissipation @ 25°C 880 W

Maximum Voltage and Current

Drain-Source Voltage (V_{DSS}) 125 V
Gate-Source Voltage (V_{GS}) -8 to +0 V

Maximum Temperatures

Storage Temperature (T_{STG}) -55 to +125°C
Operating Junction Temperature +250°C

ELECTRICAL CHARACTERISTICS @ 25°C

Symbol	Characteristics	Test Conditions ¹	Min	Typ	Max	Units
P_{OUT}	Output Power	$P_{IN}=25W$, Freq=3100,3300,3500 MHz	400	470		W
G_P	Power Gain	$P_{IN}=25W$, Freq=3100,3300,3500 MHz		12.0		dB
η_D	Drain Efficiency	$P_{IN}=25W$, Freq=3100,3300,3500 MHz	55	65		%
D_r	Droop	$P_{IN}=25W$, Freq=3100,3300,3500 MHz		0.3	0.5	dB
VSWR-T	Load Mismatch Tolerance	$P_{IN}=25W$, Freq=3100 MHz			3:1	
Θ_{JC}	Thermal Resistance	Pulse Width=200 μ s, Duty=10%			0.30	°C/W

¹ Bias Condition: $V_{DD}=+50V$, $I_{DQ}=100mA$ constant current ($V_{GS} = -2.0 \sim -4.5V$ typical)

FUNCTIONAL CHARACTERISTICS @ 25°C

$I_{D(Off)}$	Drain leakage current	$V_{GS} = -8V$, $V_D = 50V$			60	mA
$I_{G(Off)}$	Gate leakage current	$V_{GS} = -8V$, $V_D = 0V$			10	mA
BV_{DSS}	Drain-Source breakdown voltage	$V_{gs} = -8V$, $I_D = 36mA$	125			V

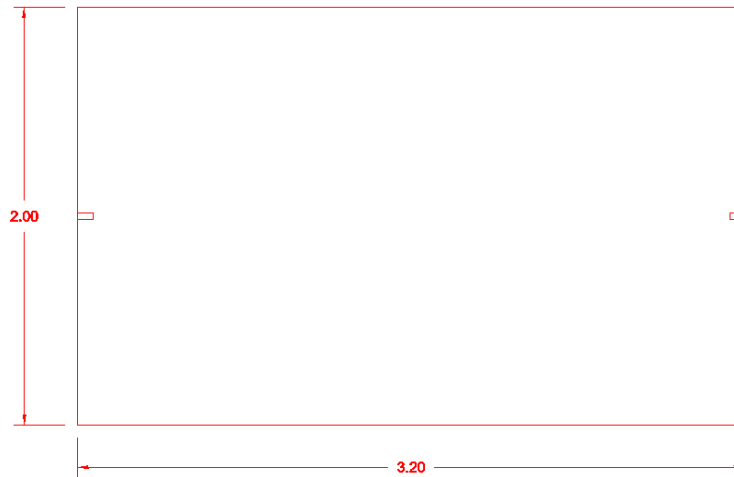
Export Classification: ECCN 3A001.b.3.a.3



3135GN-400V

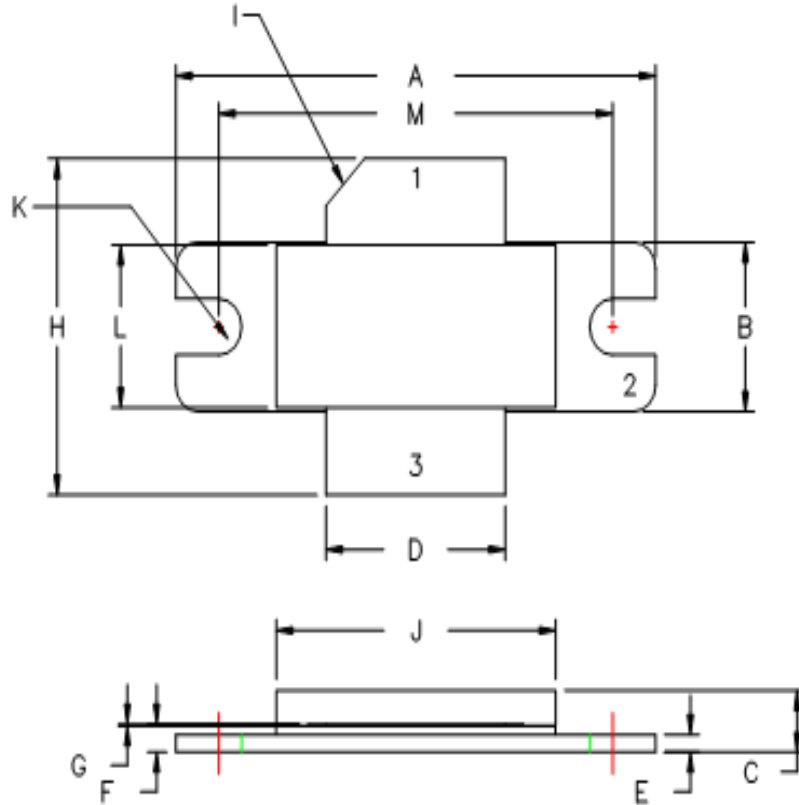
400 Watts • 50 Volts • 200 μ s, 10%
S-Band Radar 3100 - 3500 MHz

TEST CIRCUIT DIAGRAM



(Dimensions are in inches)

55-Q03 PACKAGE DIMENSION



DIM	MILLIMETER	TOL	INCHES	TOL
A	34.03	.25	1.340	.010
B	9.78	.25	.385	.010
C	3.55	.19	.140	.007
D	12.70	.13	.500	.005
E	1.02	.13	.040	.005
F	1.65	.13	.065	.005
G	0.13	.03	.005	.001
H	19.43	.76	.765	.030
I	45°	5°	45°	5°
J	19.81	.25	.780	.030
K	3.30 DIA	.13	.130 DIA	.005
L	9.40	.13	.370	.005
M	27.94	MAX	1.100	MAX

PIN 1 = DRAIN
PIN 2 = SOURCE
PIN 3 = GATE



3135GN-400V

400 Watts • 50 Volts • 200 μ s, 10%
S-Band Radar 3100 - 3500 MHz

Microsemi makes no warranty, representation, or guarantee regarding the information contained herein or the suitability of its products and services for any particular purpose, nor does Microsemi assume any liability whatsoever arising out of the application or use of any product or circuit. The products sold hereunder and any other products sold by Microsemi have been subject to limited testing and should not be used in conjunction with mission-critical equipment or applications. Any performance specifications are believed to be reliable but are not verified, and Buyer must conduct and complete all performance and other testing of the products, alone and together with, or installed in, any end-products. Buyer shall not rely on any data and performance specifications or parameters provided by Microsemi. It is the Buyer's responsibility to independently determine suitability of any products and to test and verify the same. The information provided by Microsemi hereunder is provided "as is, where is" and with all faults, and the entire risk associated with such information is entirely with the Buyer. Microsemi does not grant, explicitly or implicitly, to any party any patent rights, licenses, or any other IP rights, whether with regard to such information itself or anything described by such information. Information provided in this document is proprietary to Microsemi, and Microsemi reserves the right to make any changes to the information in this document or to any products and services at any time without notice.

About Microsemi

Microsemi Corporation (Nasdaq: MSCC) offers a comprehensive portfolio of semiconductor and system solutions for communications, defense & security, aerospace and industrial markets. Products include high-performance and radiation-hardened analog mixed-signal integrated circuits, FPGAs, SoCs and ASICs; power management products; timing and synchronization devices and precise time solutions, setting the world's standard for time; voice processing devices; RF solutions; discrete components; enterprise storage and communication solutions, security technologies and scalable anti-tamper products; Ethernet solutions; Power-over-Ethernet ICs and midspans; as well as custom design capabilities and services. Microsemi is headquartered in Aliso Viejo, Calif., and has approximately 4,800 employees globally. Learn more at www.microsemi.com.

©2016 Microsemi Corporation. All rights reserved. Microsemi and the Microsemi logo are registered trademarks of Microsemi Corporation. All other trademarks and service marks are the property of their respective owners.

Microsemi Corporate Headquarters

One Enterprise, Aliso Viejo, CA 92656 USA
Within the USA: +1 (800) 713-4113
Outside the USA: +1 (949) 380-6100
Sales: +1 (949) 380-6136 Fax: +1 (949) 215-4996
E-mail: sales.support@microsemi.com

Revision History

Revision	Date	Affected Section(s)	Description
1.0	08-19-16	-	Initial Preliminary Release

Specifications are subject to change. Consult www.microsemi.com for local sales and technical support contacts.