

## ■ Features

- High Output Power:  $P_{sat}=57.2\text{dBm}$  (Typ.)
- High Gain:  $G_p=14.2\text{dB}$  (Typ.)
- High Drain Efficiency:  $DE=50\%$  (Typ.)
- Broad Band: 5.2 to 5.9GHz
- Impedance Matched  $Z_{in}/Z_{out} = 50\text{ohm}$
- Hermetically Sealed Package



## ■ Description

The SGC5259-400B-R is a high power GaN-HEMT that is internally matched for C-band radar bands to provide optimum power and gain in a 50ohm system.

### ABSOLUTE MAXIMUM RATING (Case Temperature $T_c=25\text{ deg.C}$ )

Item	Symbol	Rating	Unit
Drain-Source Voltage	$V_{DS}$	55	V
Gate-Source Voltage	$V_{GS}$	-15	V
Storage Temperature	$T_{stg}$	-55 to +125	deg.C
Channel Temperature	$T_{ch}$	+250	deg.C

### RECOMMENDED OPERATING CONDITION

Item	Symbol	Condition	Limit	Unit
Drain-Source Voltage	$V_{DS}$		$\leq 50$	V
Forward Gate Current	$I_{GF}$	$R_g=10\text{ohm}$	$\leq 262.1$	mA
Reverse Gate Current	$I_{GR}$	$R_g=10\text{ohm}$	$\geq -20.2$	mA
Channel Temperature	$T_{ch}$		$< +200$	deg.C
Output Power	$P_{out}$		$\leq P5\text{dB}$	dBm

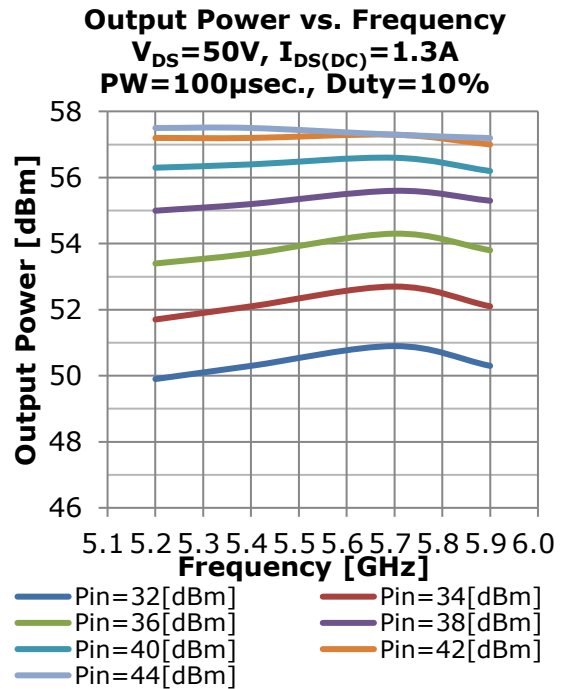
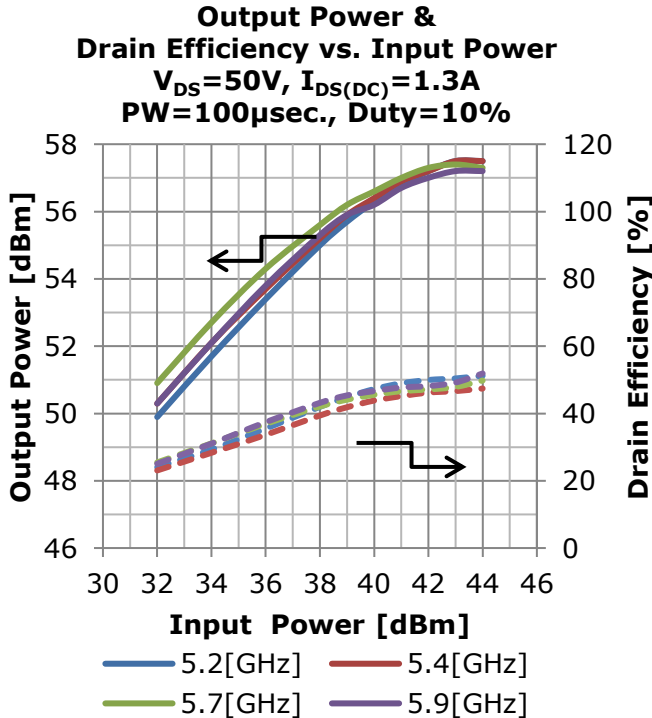
### ELECTRICAL CHARACTERISTICS (Case Temperature $T_c=25\text{ deg.C}$ )

Item	Symbol	Condition	Limit			Unit
			Min.	Typ.	Max.	
Pinch-off Voltage	$V_p$	$V_{DS}=50\text{V}, I_{DS}=13.0\text{mA}$	-	-4.5	-	V
Frequency Range	Freq.	$V_{DS}=50\text{V}$	5.2	-	5.9	GHz
Output Power	$P_{sat}$	$I_{DS(DC)}=1.3\text{A}$ Pulse Width=100μsec. Duty=10%	56.0	57.2	-	dBm
Power Gain	$G_p$		13.0	14.2	-	dB
Drain Current	$I_{DSR}$		-	21.0	-	A
Drain Efficiency	DE		-	50	-	%
Thermal Resistance	$R_{th}$	Channel to Case ( $P_{diss}=100\text{W}, \text{CW}$ )	-	0.55	0.65	deg.C/W

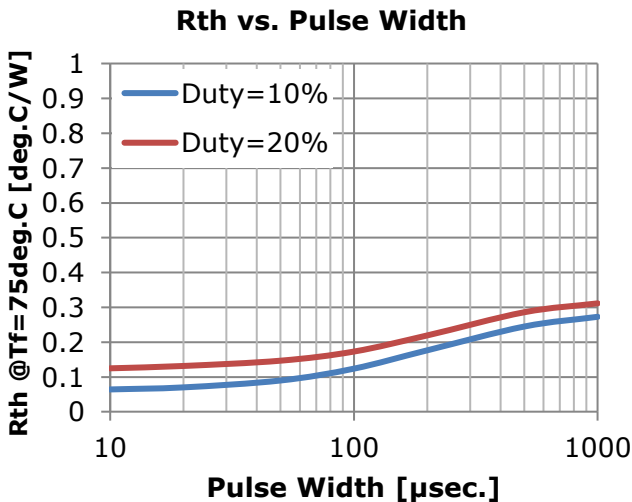
CASE STYLE	I2F
RoHS Compliance	YES
ESD	Class 3 >4000V

Note: Based on ANSI/ESDA/JEDEC JS-001-2012(C=100pF, R=1.5kohm)

## ● RF Characteristics

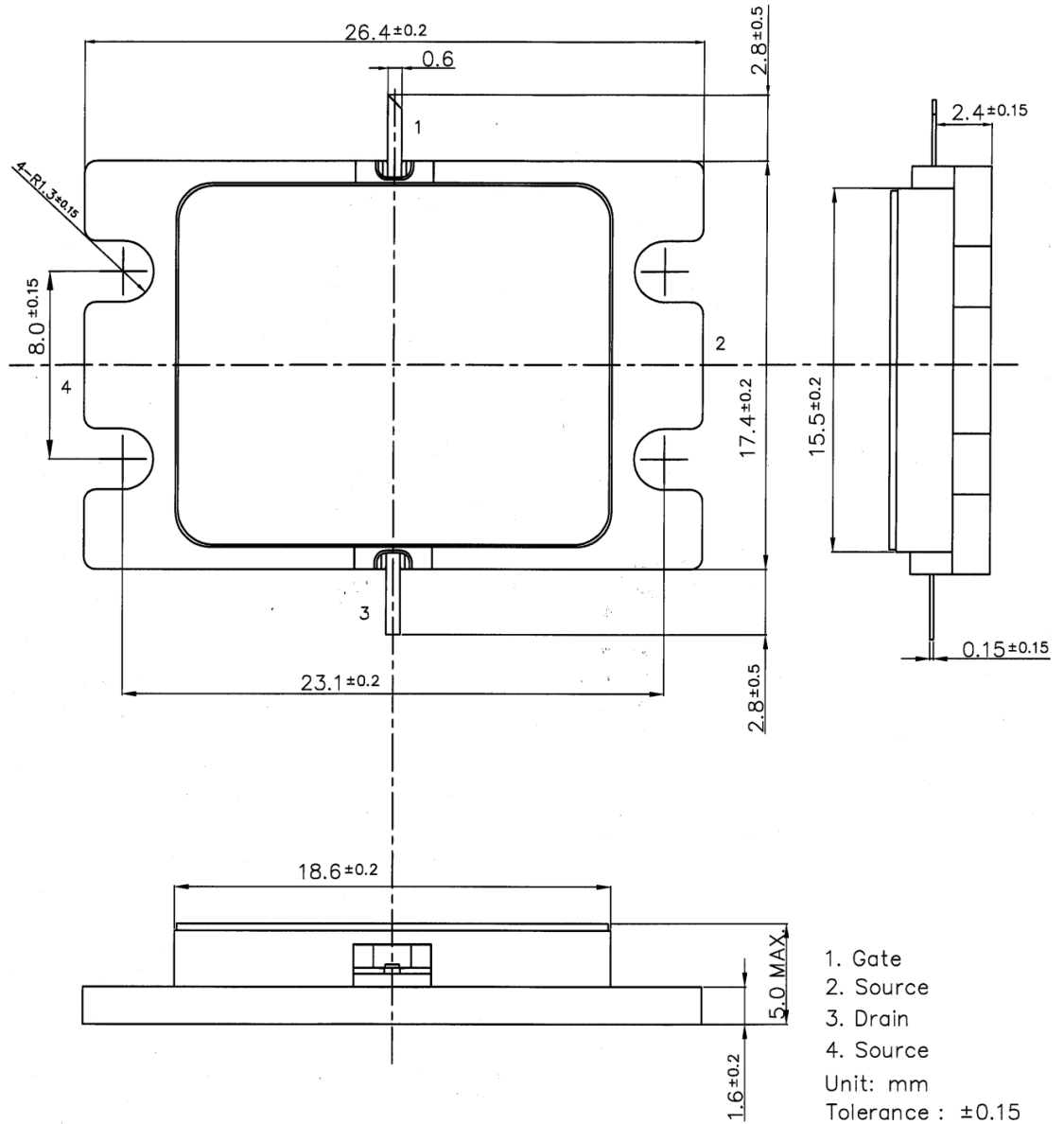


## ● Thermal Characteristics In Pulsed Operation



● **Package Outline**

Case Style : I2F



## **For Safety, Observe the Following Procedures Environmental Management**

- Do not put this product into the mouth.
- Do not alter the form of this product into a gas, powder, or liquid through burning, crushing, or chemical processing as these by-products are dangerous to the human body if inhaled, ingested, or swallowed.
- Respect all applicable laws of the country when discarding this product.  
This product must be disposed in accordance with methods specified by applicable hazardous waste procedures.

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