Preliminary Target Specification

■ Features

- High Power GaN HEMT for DC to 3GHz
- High Power : 150W @ 3GHz
- High Efficiency: 57% @ 3GHz
- CW Operable
- Easy of Matching: Input Pre-matched for 3GHz
- Small Flangeless Package

■ Description

Sumitomo Electric's GaN-HEMT F658-H130M1H offers high power, high efficiency, ease of matching and greater consistency for DC to 3GHz high power applications with 50V operation.

ABSOLUTE MAXIMUM RATING

Item	Symbol	Rating	Unit
Operating Voltage	V_{DS}	55	V
Drain-Source Voltage	V_{DS}	200 @ V_{GS}-8V	V
Gate-Source Voltage	V_{GS}	-15	V
Total Power Dissipation	P_t	170 @T_c=25deg.C	W
Storage Temperature	T_{stg}	-55 to +125	deg.C
Channel Temperature	T_{ch}	+250	deg.C

RECOMMENDED OPERATING CONDITION(Case Temperature T_c=25 deg.C)

Item	Symbol	Condition	Limit	Unit
Drain-Source Voltage	V_{DS}		<=50	V
Forward Gate Current	I_{GF}	Rg=5ohm	<=125	mA
Reverse Gate Current	I_{GR}	Rg=5ohm	>=-7.2	mA
Channel Temperature	T_{ch}		<=180	deg.C

ELECTRICAL CHARACTERISTICS (Case Temperature T_c=25 deg.C)

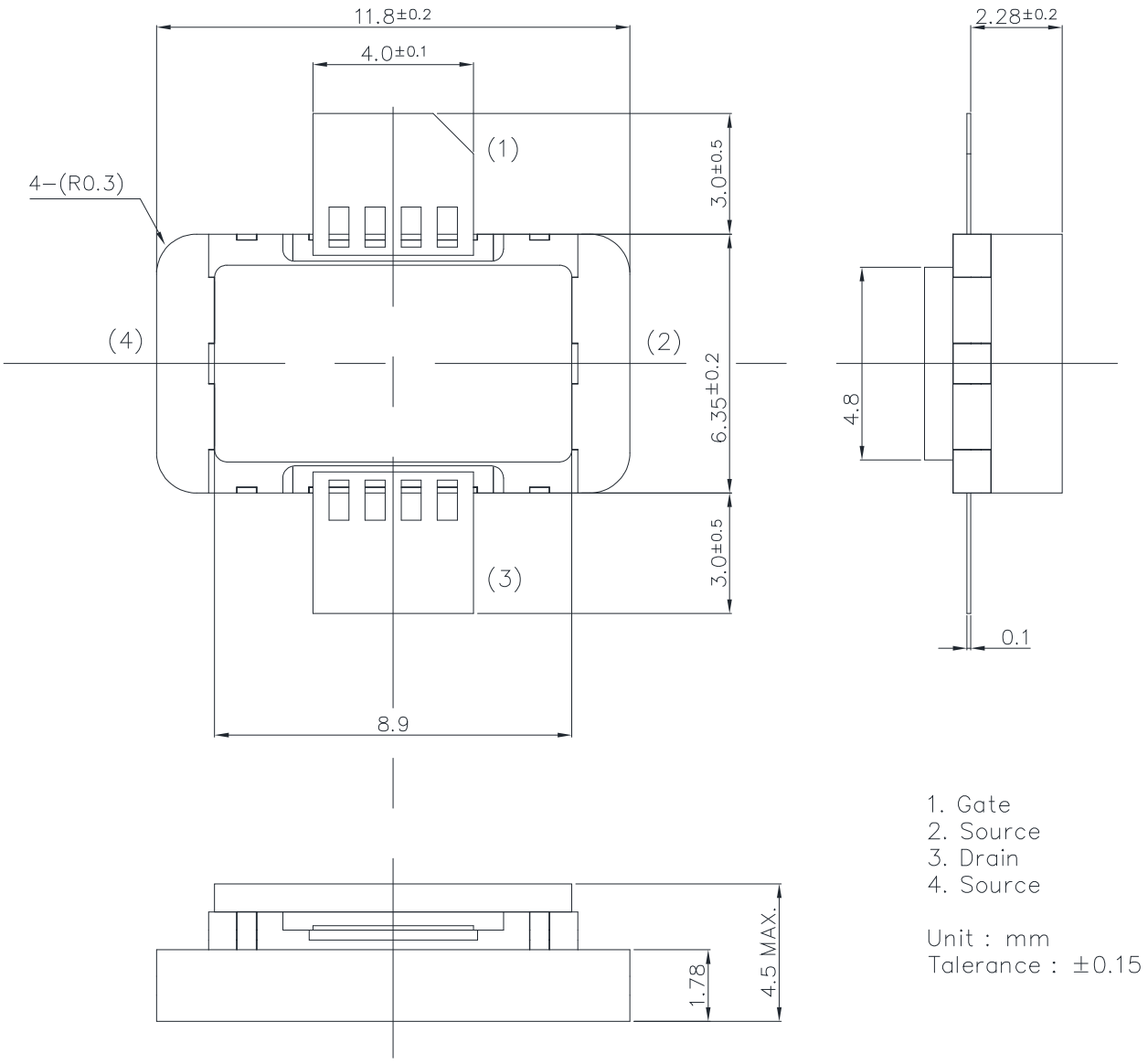
Item	Symbol	Condition	Limit			Unit
			Min.	Typ.	Max.	
Pinch-off Voltage	V_P	V_{DS}=50V, I_{DS}=36mA	-4.0	-2.5	-1.5	V
Saturated Power	P_{sat}	V_{DS}=50V, $I_{DS(DC)}$=500mA, Pin=38dBm, f=3GHz, PW=200µs, Duty=10%	51.1	51.9	-	dBm
Drain Efficiency	DE		50.0	56.5	-	%
Power Gain	G_P		-	13.9	-	dB
Thermal Resistance	R_{th}	Channel to Case at 90W P_{DC}	-	1.1	1.32	deg.C/W

Case Style	M1H
RoHS Compliance	YES

■ Package Outline

Case Style: M1H

Preliminary Target Specification



1. Gate
2. Source
3. Drain
4. Source

Unit : mm
Talerance : ±0.15

Preliminary Target Specification

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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