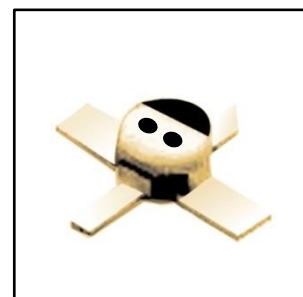


FEATURES

- Medium Power Output : P1dB=16.0dBm (Typ.)@f=12.0GHz
- High Power Gain: G1dB=8.0dB (Typ.)@f=12.0GHz
- Proven Reliability
- Cost Effective Harmetic Microstrip Package
- Tape and Reel Available



DESCRIPTION

The FSX017LG is a general purpose GaAs FET designed for medium power applications up to 12GHz. These devices have a wide dynamic range and are suitable for use in medium power, wide band, linear drive amplifiers.

Sumitomo Electric stringent Quality Assurance Program assures the highest reliability and consistent performance.

ABSOLUTE MAXIMUM RATING (Ambient Temperature Ta=25 deg.C)

Item	Symbol	Condition	Rating	Unit
Drain-Source Voltage	V_{DS}		8	V
Gate-Source Voltage	V_{GS}		-5.0	V
Total Power Dissipation	Ptot	Note	220	mW
Storage Temperature	Tstg		-65 to +175	deg.C
Channel Temperature	Tch		175	deg.C

Note: Mounted on Al₂O₃ board (30 x 30 x 0.65mm)

Sumitomo Electric recommends the following conditions for the reliable operation of GaAs FETs:

1. The drain-source operating voltage (V_{DS}) should not exceed 4 volts.
2. The forward and reverse gate currents should not exceed 0.7 and -0.1 mA respectively with gate resistance of 2000ohm.

ELECTRICAL CHARACTERISTICS (Ambient Temperature Ta=25 deg.C)

Item	Symbol	Condition	Limit			Unit
			Min.	Typ.	Max.	
Saturated Drain Current	I_{DSS}	$V_{DS} = 3V, V_{GS} = 0V$	35	55	75	mA
Transconductance	g_m	$V_{DS} = 3V, I_{DS} = 27mA$	-	50	-	mS
Pinch-off Voltage	V_p	$V_{DS} = 3V, I_{DS} = 2.7mA$	-0.7	-1.2	-1.7	V
Gate Source Breakdown Voltage	V_{GSO}	$I_{GS} = -2.7\mu A$	-5.0	-	-	V
Power Gain at 1dB G.C.P.	P1dB	$V_{DS} = 4V, I_{DS} = 30mA,$	15.0	16.0	-	dBm
Power Gain at 1dB G.C.P.	G1dB	$f = 12 GHz$	7.0	8.0	-	dB
Thermal Resistance	R_{th}	Channel to Case	-	300	400	deg.C/W

CASE STYLE

LG

G.C.P.:Gain Compression Point

Note: The RF parameters are measured on a lot basis by sample testing at an AQL=0.1% Level- II inspection.
Any lot failure shall be 100% retested.

Lot qty.	Sample qty.	Accept/Reject
1200 or less	125	(0 , 1)
1201 to 3200	200	(0 , 1)
3201 to 10000	315	(1 , 2)
10001 or over	500	(1 , 2)

RoHS Compliance

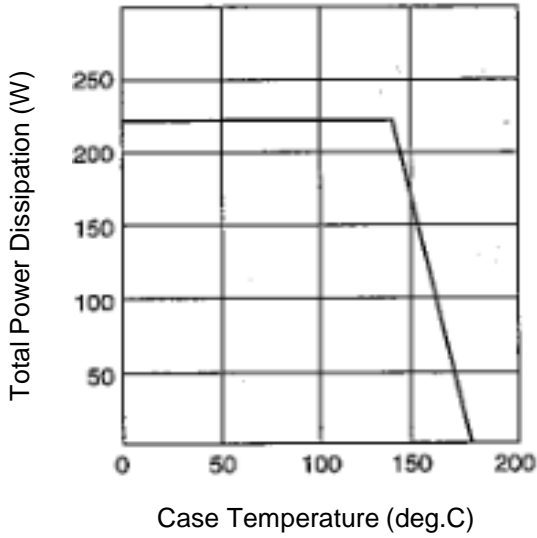
Yes

ESD

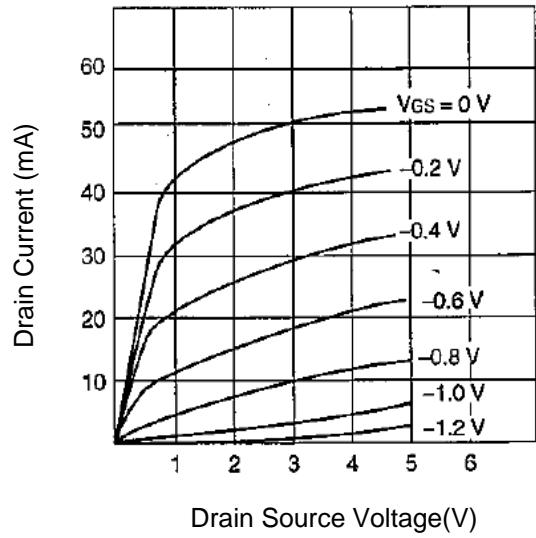
Class 1A

Note : Based on JEDEC JESD22-A114 (C=100pF, R=1.5kohm)

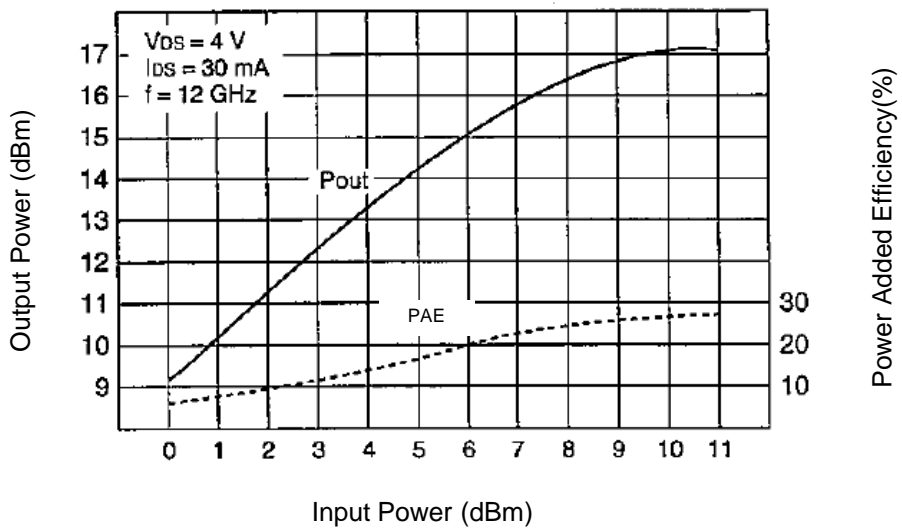
POWER DERATING CURVE

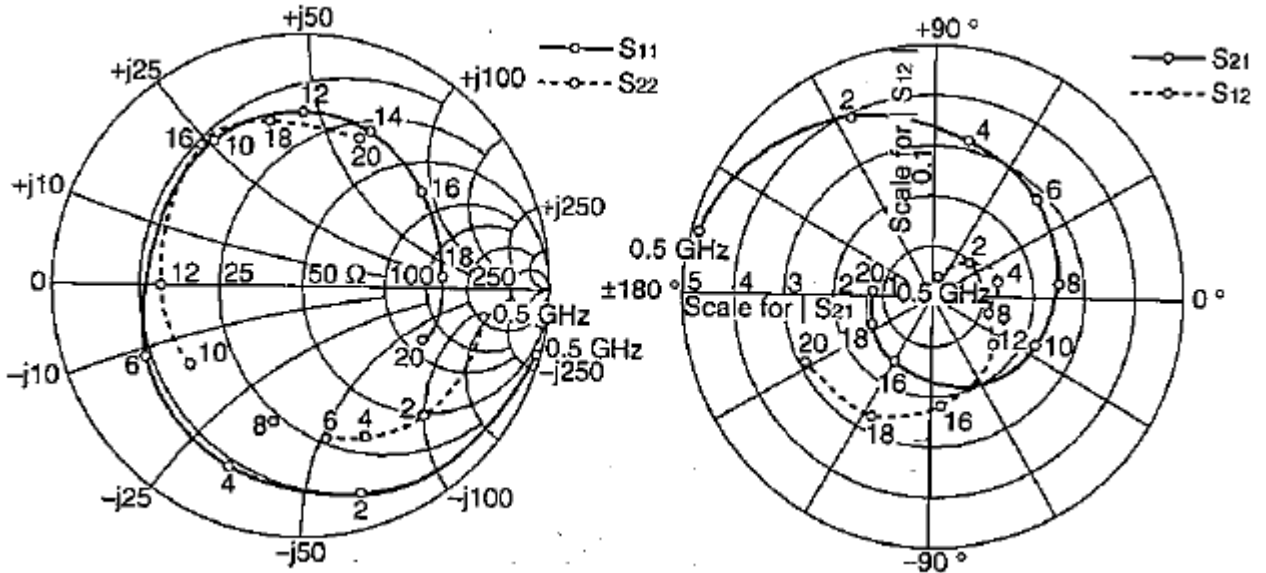


DRAIN CURRENT vs DRAIN-SOURCE VOLTAGE



OUTPUT POWER vs. INPUT POWER

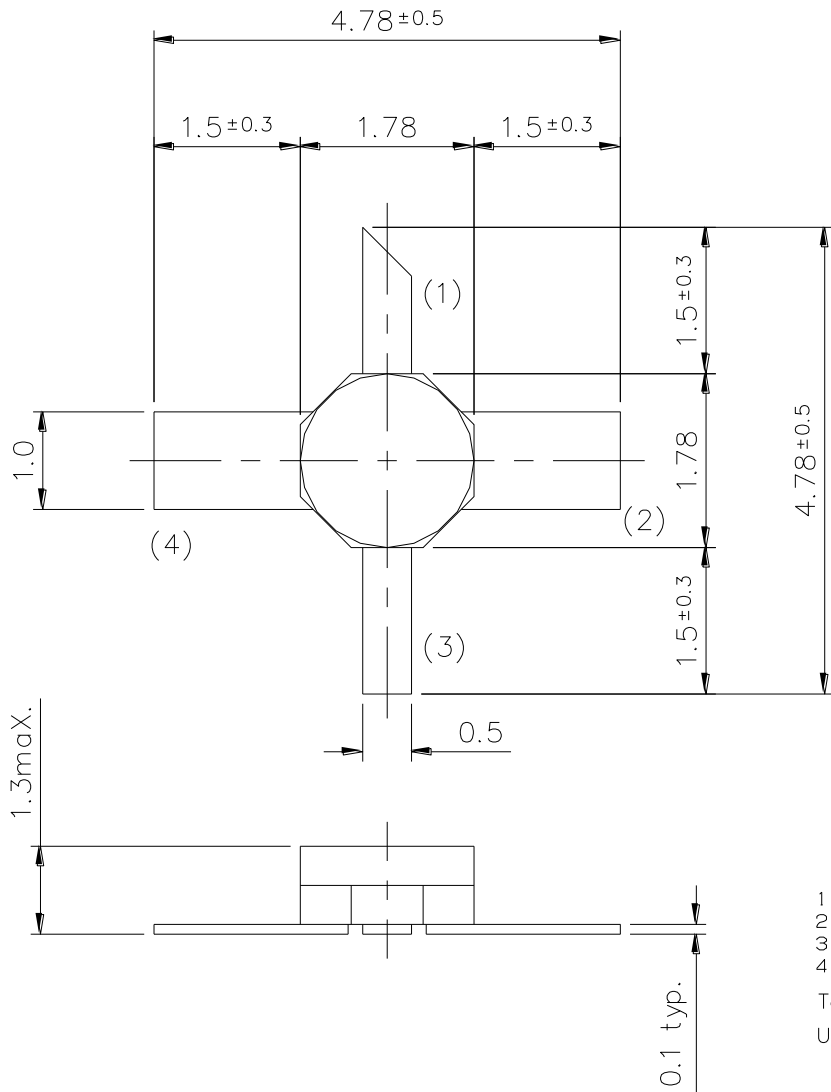




S-PARAMETERS
V_{ds}=4V, I_{DS}=30mA

FREQUENCY (MHz)	S ₁₁		S ₂₁		S ₁₂		S ₂₂	
	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
500	.992	-15.5	4.814	165.8	.012	78.8	.735	-9.5
2000	.915	-58.9	4.244	127.5	.039	51.8	.709	-35.8
4000	.795	-104.8	3.300	86.9	.053	24.1	.670	-60.0
6000	.690	-144.0	2.839	54.1	.054	6.4	.632	-74.7
8000	.606	167.3	2.542	18.1	.052	-13.4	.533	-95.2
10000	.628	130.0	2.237	-16.3	.052	-16.5	.484	-133.0
12000	.655	98.8	1.924	-51.0	.067	-33.2	.544	-173.9
14000	.658	70.8	1.633	-82.5	.075	-51.9	.594	158.0
16000	.630	44.8	1.466	-113.5	.085	-75.4	.650	134.1
18000	.570	14.0	1.394	-147.7	.096	-107.7	.648	109.1
20000	.513	-18.3	1.296	172.6	.112	-151.6	.619	68.1

LG PKG OUTLINE



- 1 : Gate
- 2 : Source
- 3 : Drain
- 4 : Source

Tolerance : ± 0.15

Unit : mm

CAUTION

This product contains **gallium arsenide (GaAs)** which can be hazardous to the human body and the environment. For safety, observe the following procedures:

- Do not put these products 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.
- Observe government laws and company regulations when discarding this product. This product must be discarded in accordance with methods specified by applicable hazardous waste procedures.