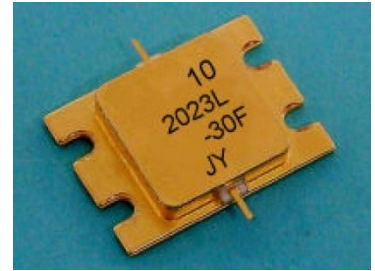


### FEATURES

- High Output Power: P1dB=45.0dBm(Typ.)
- High Gain: G1dB=13.0dB(Typ.)
- High PAE:  $\eta_{add}$ =43%(Typ.)
- Broad Band: 2.025 to 2.285GHz
- Impedance Matched Zin/Zout = 50ohm
- Hermetically Sealed Package



### DESCRIPTION

The FLM2023L-30F is a power GaAs FET that is internally matched for standard communication bands to provide optimum power and gain in a 50ohm system.

### ABSOLUTE MAXIMUM RATINGS (Case Temperature Tc=25deg.C)

Item	Symbol	Rating	Unit
Drain-Source Voltage	$V_{DS}$	15	V
Gate-Source Voltage	$V_{GS}$	-5	V
Total Power Dissipation	$P_T$	107	W
Storage Temperature	$T_{stg}$	-65 to +175	deg.C
Channel Temperature	$T_{ch}$	175	deg.C

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

Item	Symbol	Condition	Limit	Unit
DC Input Voltage	$V_{DS}$		$\leq 10$	V
Forward Gate Current	$I_{GF}$	$R_G=25\text{ohm}$	$\leq 54$	mA
Reverse Gate Current	$I_{GR}$	$R_G=25\text{ohm}$	$\geq -17.2$	mA

### ELECTRICAL CHARACTERISTICS (Case Temperature Tc=25deg.C)

Item	Symbol	Condition	Limit			Unit
			Min.	Typ.	Max.	
Drain Current	$I_{DSS}$	$V_{DS}=5V, V_{GS}=0V$	-	-	16	A
Trans conductance	gm	$V_{DS}=5V, I_{DS}=7.2A$	-	6000	-	mS
Pinch-off Voltage	$V_p$	$V_{DS}=5V, I_{DS}=720\text{mA}$	-1.0	-2.0	-3.5	V
Gate-Source Breakdown Voltage	$V_{GSO}$	$I_{GS}=-720\mu A$	-5.0	-	-	V
Output Power at 1dB G.C.P.	$P_{1dB}$	$V_{DS}=10V$	44.0	45.0	-	dBm
Power Gain at 1dB G.C.P.	$G_{1dB}$	$I_{DS}DC=7.0A$	12.0	13.0	-	dB
Drain Current	$I_{dsr}$	$f=2.025 \text{ to } 2.285 \text{ GHz}$	-	7.0	8.5	A
Power-added Efficiency	$\eta_{add}$	$Z_s=Z_L=50\text{ohm}$	-	43	-	%
Gain Flatness	$\Delta G$	$f=2.285 \text{ GHz}$	-	-	2.0	dB
3rd Order Intermodulation Distortion	$IM_3$	$\Delta f=5\text{MHz}, 2\text{-Tone Test}$ $P_{out}=34.5\text{dBm (S.C.L.)}$	-44	-	-	dBc
Thermal Resistance	$R_{th}$	Channel to Case	-	1.2	1.4	deg.C/W
Channel Temperature Rise	$\Delta T_{ch}$	$10V \times I_{dsr} \times R_{th}$	-	-	100	deg.C

G.C.P.: Gain Compression Point

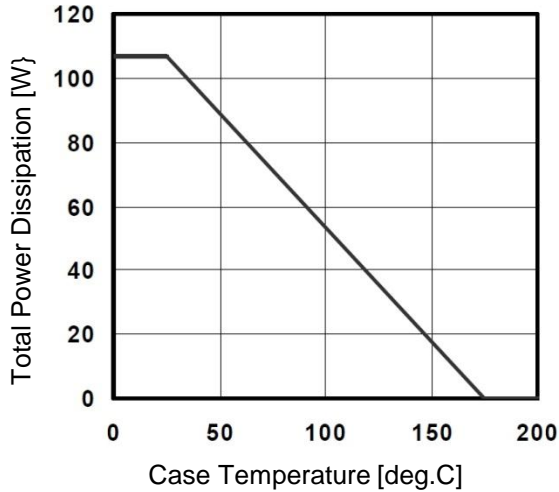
<b>CASE STYLE</b>	<b>IK</b>
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<b>ESD</b>	<b>Class 3A</b>	<b>4000V to 8000V</b>
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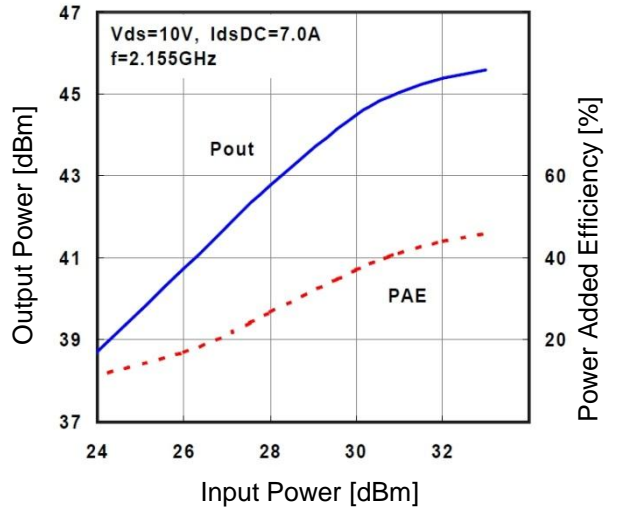
Note : Based on EIAJ ED-4701 C-111A (C=100pF, R=1.5kohm)

<b>RoHS Compliance</b>	<b>Yes</b>
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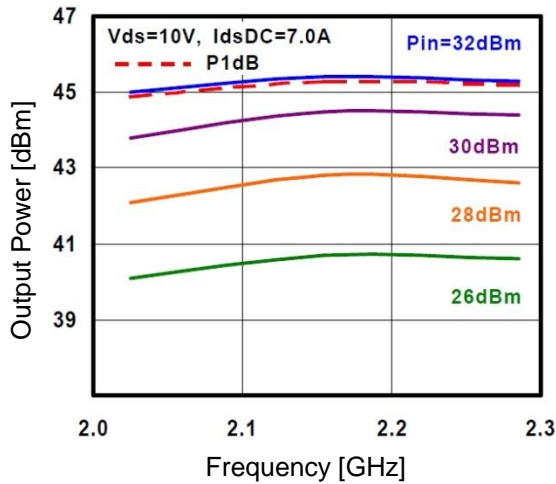
**POWER DERATING CURVE**



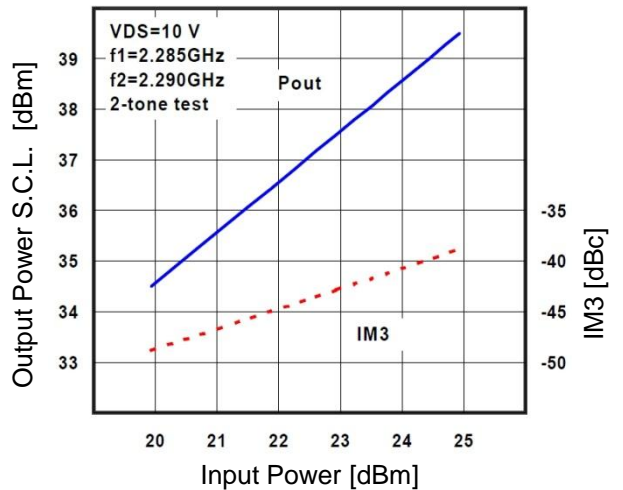
**OUTPUT POWER & ADDED EFFICIENCY vs INPUT POWER**



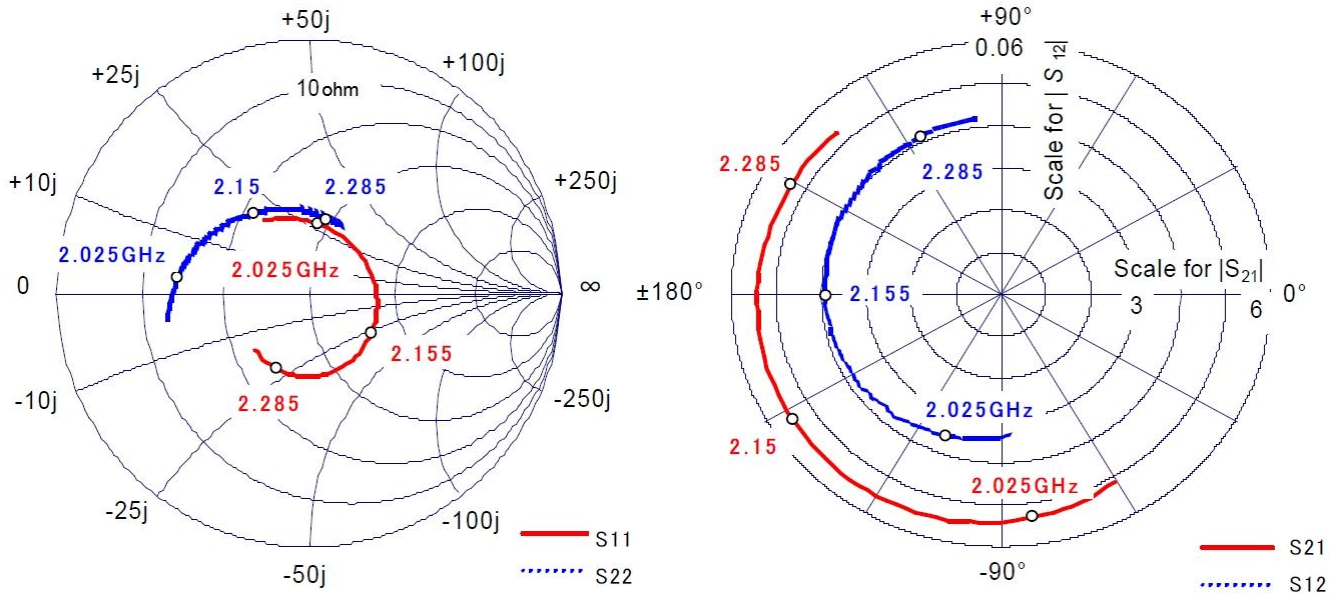
**OUTPUT POWER vs FREQUENCY**



**OUTPUT POWER & IM3 vs. INPUT POWER**



### S-PARAMETERS

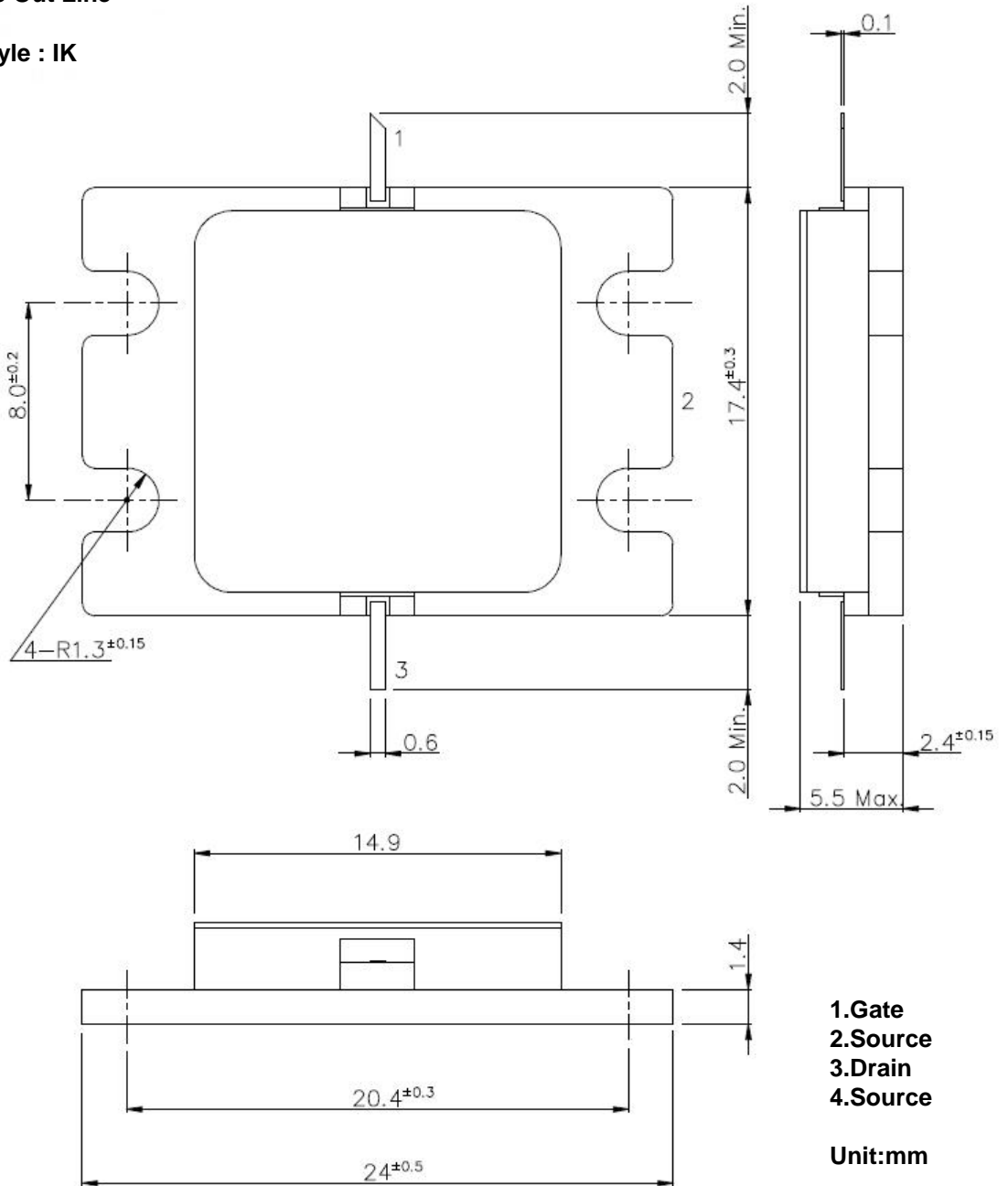


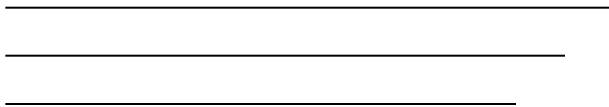
VDS=10.0V, IDS=7.0A

Freq [GHz]	S11		S21		S12		S22	
	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
2.000	0.307	104.9	5.237	-70.1	0.034	-96.7	0.548	-177.1
2.025	0.276	82.6	5.358	-82.4	0.036	-110.2	0.522	173.5
2.050	0.258	58.2	5.448	-95.0	0.037	-123.8	0.495	164.1
2.075	0.254	33.6	5.498	-107.5	0.037	-137.0	0.468	154.8
2.100	0.262	10.4	5.526	-120.0	0.038	-150.6	0.441	145.4
2.125	0.275	-10.5	5.524	-132.3	0.038	-163.6	0.414	136.0
2.150	0.292	-29.5	5.510	-144.6	0.039	-176.6	0.390	126.5
2.155	0.294	-33.0	5.505	-147.1	0.039	-179.6	0.385	124.6
2.175	0.305	-46.6	5.481	-156.7	0.039	170.2	0.367	117.1
2.200	0.317	-62.6	5.449	-168.7	0.040	157.8	0.349	107.9
2.225	0.326	-77.5	5.418	179.5	0.040	145.3	0.332	98.7
2.250	0.329	-91.9	5.375	167.4	0.041	132.6	0.318	89.2
2.275	0.328	-106.6	5.331	155.5	0.041	120.5	0.307	79.7
2.285	0.325	-112.5	5.328	150.8	0.041	115.1	0.302	75.9
2.300	0.319	-121.5	5.319	143.5	0.042	107.9	0.297	70.3

■ Package Out Line

Case Style : IK





**FLM2023L-30F**  
**L-Band Internally Matched FET**

**For further information please contact:**

**<http://global-sei.com/Electro-optic/about/office.html>**

**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.