

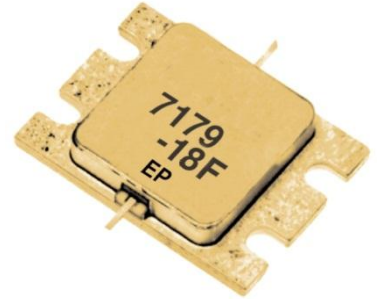
FEATURES

- High Output Power: $P_{1dB} = 42.5\text{dBm}$ (Typ.)
- High Gain: $G_{1dB} = 8.0\text{dB}$ (Typ.)
- High PAE: $\eta_{add} = 30\%$ (Typ.)
- Low IM3: $-46\text{dBc}@P_o = 32.0\text{dBm}$
- Broad Band: 7.1 to 7.9GHz
- Impedance Matched $Z_{in}/Z_{out} = 50\text{ohm}$
- Hermetically Sealed Package

DESCRIPTION

The FLM7179-18F is a power GaAs FET that is internally matched for standard communication bands to provide optimum power and gain in a 50 ohm system.

SEDI's stringent Quality Assurance Program assures the highest reliability and consistent performance.



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

Item	Symbol	Condition	Rating	Unit
Drain-Source Voltage	V_{DS}		15	V
Gate-Source Voltage	V_{GS}		-5	V
Total Power Dissipation	P_T	$T_c = 25\text{deg.C}$	83.3	W
Storage Temperature	T_{stg}		-65 to +175	deg.C
Channel Temperature	T_{ch}		175	deg.C

SEDI recommends the following conditions for the reliable operation of GaAs FETs:

1. The drain-source operating voltage (V_{DS}) should not exceed 10 volts.
2. The forward and reverse gate currents should not exceed 48.0 and -8.4 mA respectively with gate resistance of 25ohm.

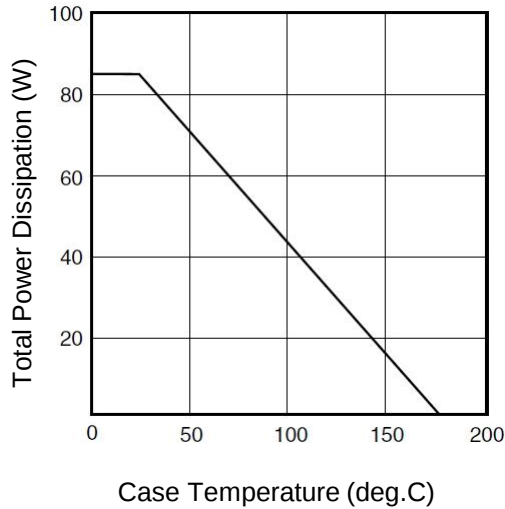
ELECTRICAL CHARACTERISTICS (Case Temperature $T_c=25\text{deg.C}$)

Item	Symbol	Test Conditions	Limit			Unit
			Min.	Typ.	Max.	
Saturated Drain Current	I_{DSS}	$V_{DS}=5V, V_{GS}=0V$	-	7.5	11.25	A
Transconductance	g_m	$V_{DS}=5V, I_{DS}=4875\text{mA}$	-	7.5	-	S
Pinch-off Voltage	V_p	$V_{DS}=5V, I_{DS}=375\text{mA}$	-0.5	-1.5	-3.0	V
Gate Source Breakdown Voltage	V_{GSO}	$I_{GS}=-375\text{uA}$	-5.0	-	-	V
Output Power at 1dB G.C.P.	P_{1dB}	$V_{DS}=10V,$ $I_{DS}=0.65 I_{DSS}$ (Typ.), $f=7.1$ to 7.9 GHz, $Z_S=Z_L=50\text{ohm}$	42.0	42.5	-	dBm
Power Gain at 1dB G.C.P.	G_{1dB}		7.0	8.0	-	dB
Drain Current	I_{dsr}		-	4875	6000	mA
Power-added Efficiency	η_{add}		-	30	-	%
Gain Flatness	ΔG		-	-	1.2	dB
3rd Order Intermodulation Distortion	IM_3	$f = 7.9$ GHz, $\Delta f = 10$ MHz 2-Tone Test $P_{out} = 32.0\text{dBm S.C.L.}$	-44	-46	-	dBc
Thermal Resistance	R_{th}	Channel to Case	-	1.6	1.8	deg.C/W
Channel Temperature Rise	ΔT_{ch}	$10V \times I_{dsr} \times R_{th}$	-	-	80	deg.C

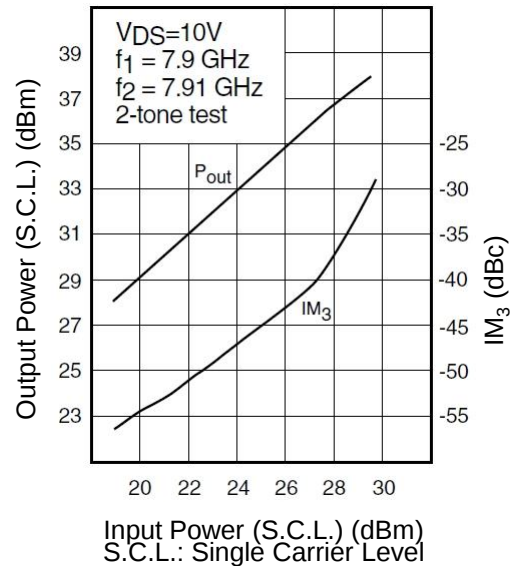
G.C.P.: Gain Compression Point, S.C.L.: Single Carrier Level

CASE STYLE	IK	
ESD	Class 3A	4000V to 8000V
Note : Based on JEDEC JESD22-A114 (C=100pF, R=1.5kohm)		
RoHS Compliance	Yes	

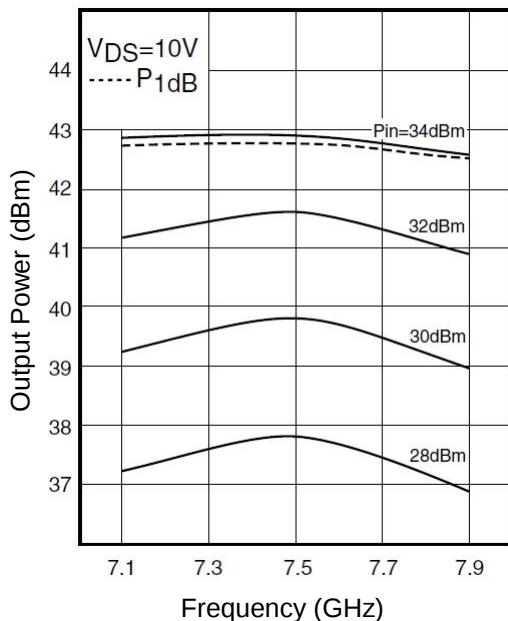
POWER DERATING CURVE



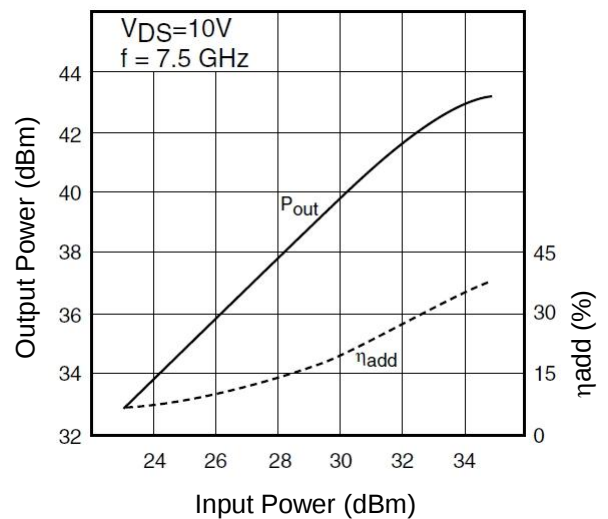
OUTPUT POWER & IM_3 vs. INPUT POWER

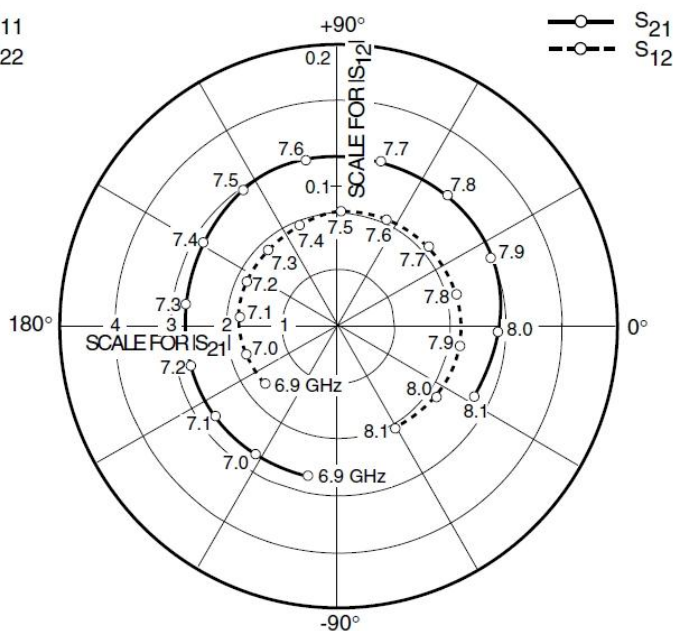
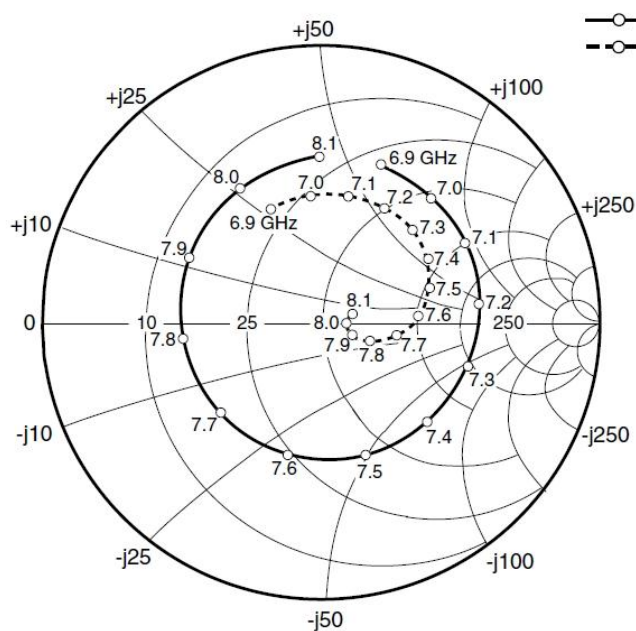


OUTPUT POWER vs. FREQUENCY



OUTPUT POWER vs. INPUT POWER



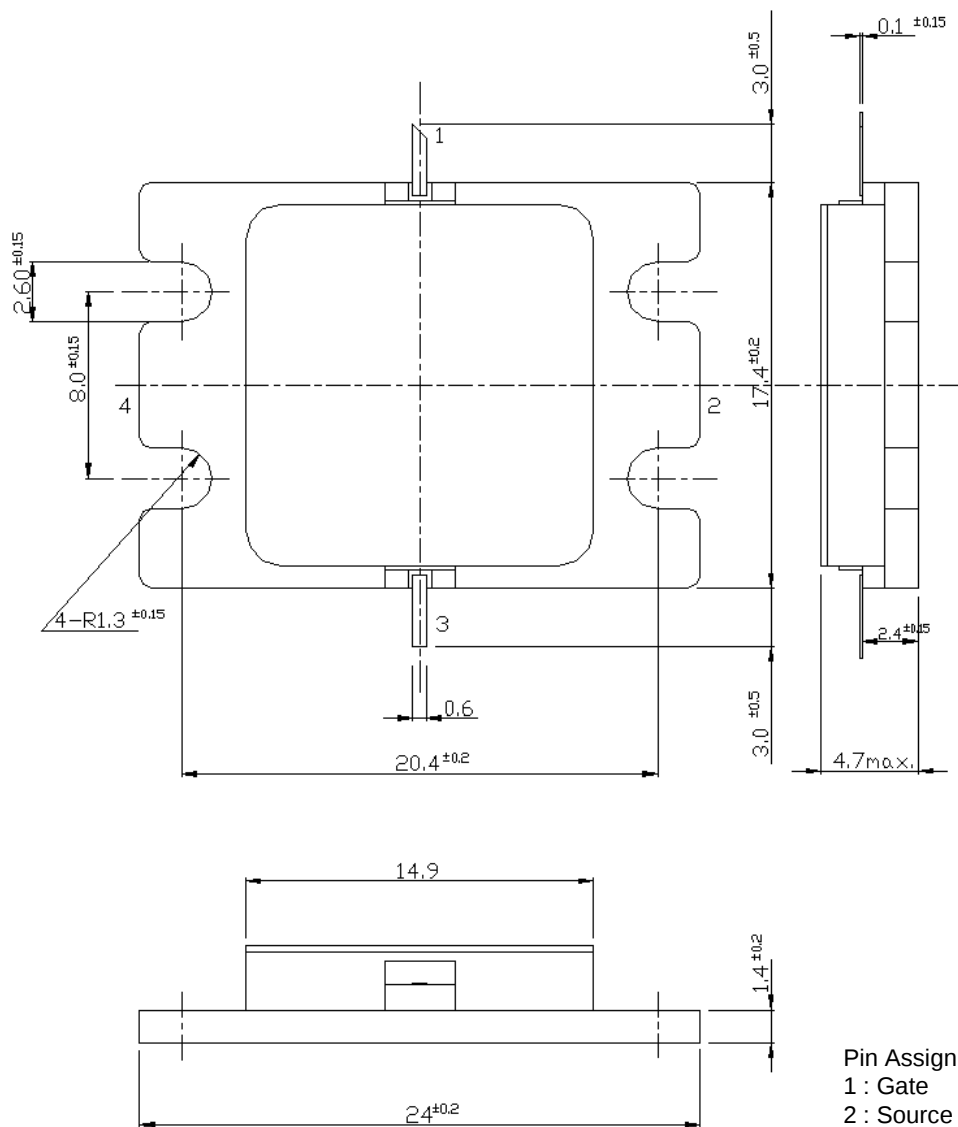


S-PARAMETERS

$V_{DS} = 10V$, $I_{DS} = 4875mA$

FREQUENCY (MHz)	S11		S21		S12		S22	
	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
6900	0.608	69.8	2.712	-101.5	0.067	-142.1	0.448	114.3
7000	0.595	49.1	2.703	-123.1	0.069	-162.8	0.458	95.0
7100	0.588	29.2	2.712	-143.6	0.071	175.7	0.465	77.6
7200	0.567	6.8	2.744	-165.5	0.072	154.6	0.470	60.9
7300	0.550	-16.7	2.799	172.2	0.075	133.4	0.465	45.7
7400	0.526	-43.1	2.868	149.3	0.077	111.5	0.446	31.1
7500	0.507	-71.6	2.943	125.5	0.081	88.8	0.410	17.4
7600	0.493	-103.7	3.008	101.1	0.083	66.0	0.351	3.8
7700	0.484	-137.3	3.037	75.7	0.086	41.2	0.273	-9.6
7800	0.500	-172.8	3.030	49.8	0.090	15.9	0.189	-20.3
7900	0.527	153.3	2.973	23.9	0.088	-8.3	0.118	-21.9
8000	0.571	121.0	2.865	-2.1	0.086	-34.7	0.090	-1.4
8100	0.605	90.9	2.722	-27.5	0.083	-60.3	0.117	13.2

■ Package Outline
Case Style : IK



Pin Assignment

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

Unit : mm



FLM7179-18F

C-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.