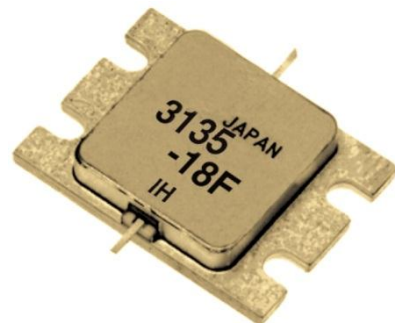


### FEATURES

- High Output Power:  $P_{1dB} = 43.0\text{dBm}$  (Typ.)
- High Gain:  $G_{1dB} = 10.5\text{dB}$  (Typ.)
- High PAE:  $\eta_{add} = 37\%$  (Typ.)
- Low IM3 =  $-45\text{dBc}@P_o = 32.0\text{dBm}$
- Broad Band: 3.1 to 3.5GHz
- Impedance Matched  $Z_{in}/Z_{out} = 50\text{ohm}$
- Hermetically Sealed Package



### DESCRIPTION

The FLM3135-18F 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 (Ambient Temperature $T_a=25\text{deg.C}$ )

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 26.0 and -11.6 mA respectively with gate resistance of 25ohm.

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

Item	Symbol	Test Conditions	Limit			Unit
			Min.	Typ.	Max.	
Saturated Drain Current	$I_{DSS}$	$V_{DS}=5V, V_{GS}=0V$	-	7.5	11.2	A
Transconductance	$g_m$	$V_{DS}=5V, I_{DS}=4800\text{mA}$	-	8000	-	mS
Pinch-off Voltage	$V_p$	$V_{DS}=5V, I_{DS}=480\text{mA}$	-0.5	-1.5	-3.0	V
Gate Source Breakdown Voltage	$V_{GSO}$	$I_{GS}=-480\text{uA}$	-5.0	-	-	V
Output Power at 1dB G.C.P.	$P_{1dB}$	$V_{DS}=10V,$	42.0	43.0	-	dBm
Power Gain at 1dB G.C.P.	$G_{1dB}$	$I_{DS}=0.55 I_{DSS}$ (Typ.),	9.5	10.5	-	dB
Drain Current	$I_{dsr}$	$f=3.1$ to $3.5$ GHz,	-	4800	6000	mA
Power-added Efficiency	$\eta_{add}$	$Z_S=Z_L=50\text{ohm}$	-	37	-	%
Gain Flatness	$\Delta G$		-	-	+/-0.6	dB
3rd Order Intermodulation Distortion	$IM_3$	$f = 3.5$ GHz, $\Delta f = 10$ MHz 2-Tone Test $P_{out} = 32.0\text{dBm}$ S.C.L.	-42	-45	-	dBc
Thermal Resistance	$R_{th}$	Channel to Case	-	1.6	1.8	deg.C/W
Channel Temperature Rise	$\Delta T_{ch}$	$10V \times I_{dsr} \times R_{th}$	-	-	80	deg.C

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

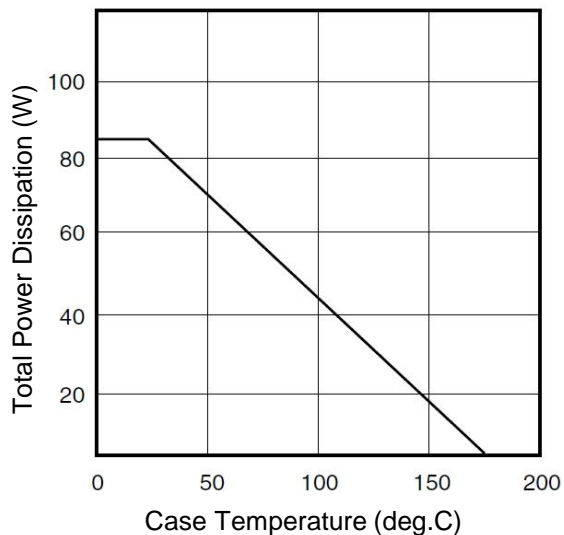
<b>CASE STYLE</b>	<b>IK</b>
-------------------	-----------

<b>ESD</b>	<b>Class 3A</b>	<b>4000V to 8000V</b>
------------	-----------------	-----------------------

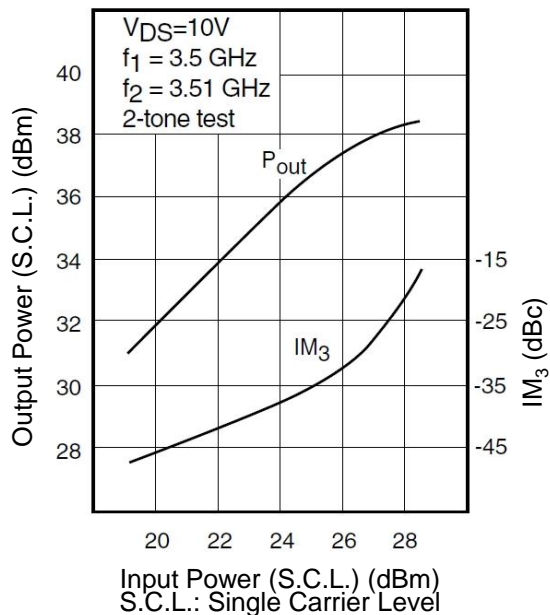
Note : Based on EIAJ ED-4701 C-111A (C=100pF, R=1.5kohm)

<b>RoHS Compliance</b>	<b>Yes</b>
------------------------	------------

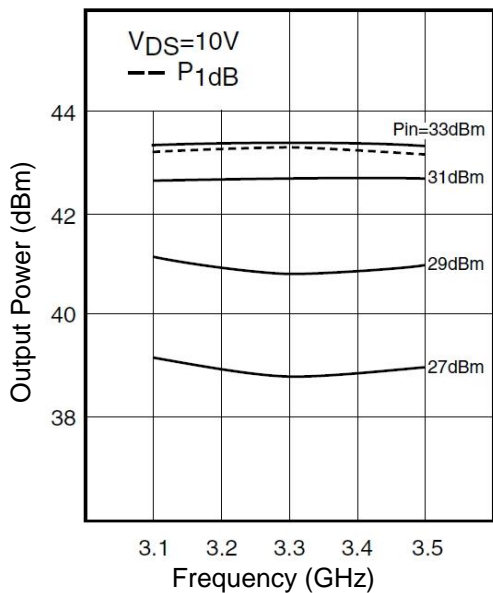
**POWER DERATING CURVE**



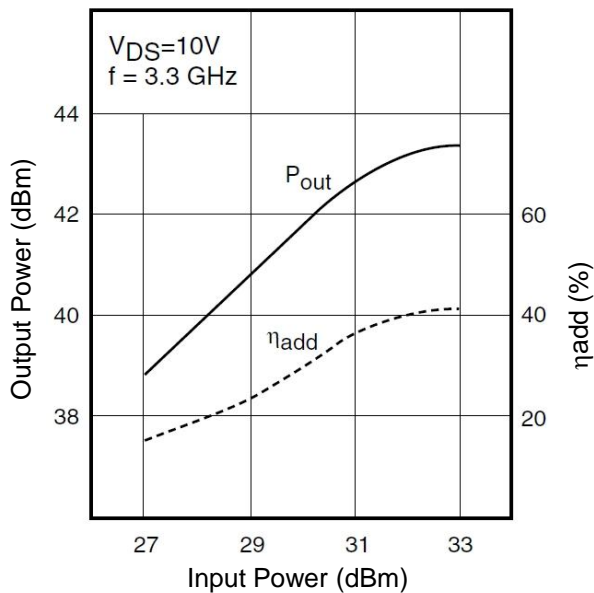
**OUTPUT POWER & IM<sub>3</sub> vs. INPUT POWER**

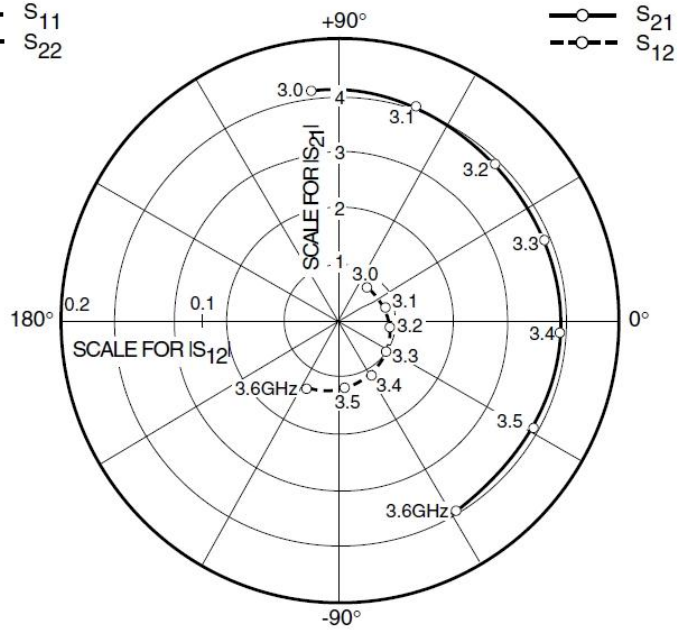
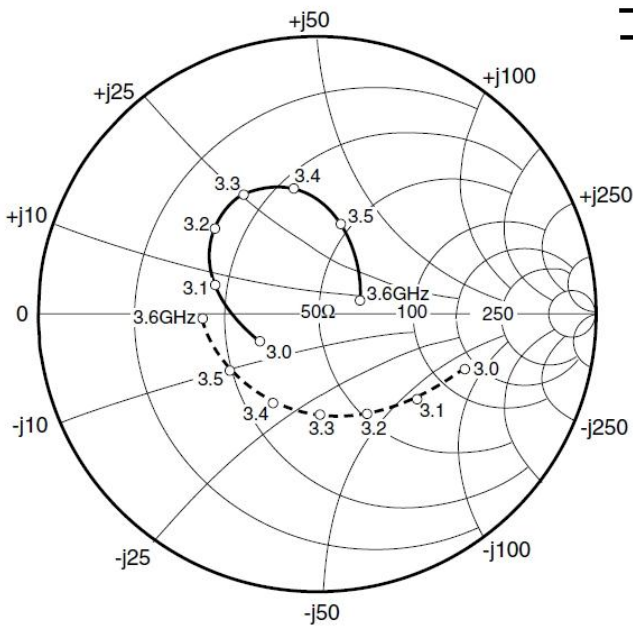


**OUTPUT POWER vs. FREQUENCY**



**OUTPUT POWER vs. INPUT POWER**



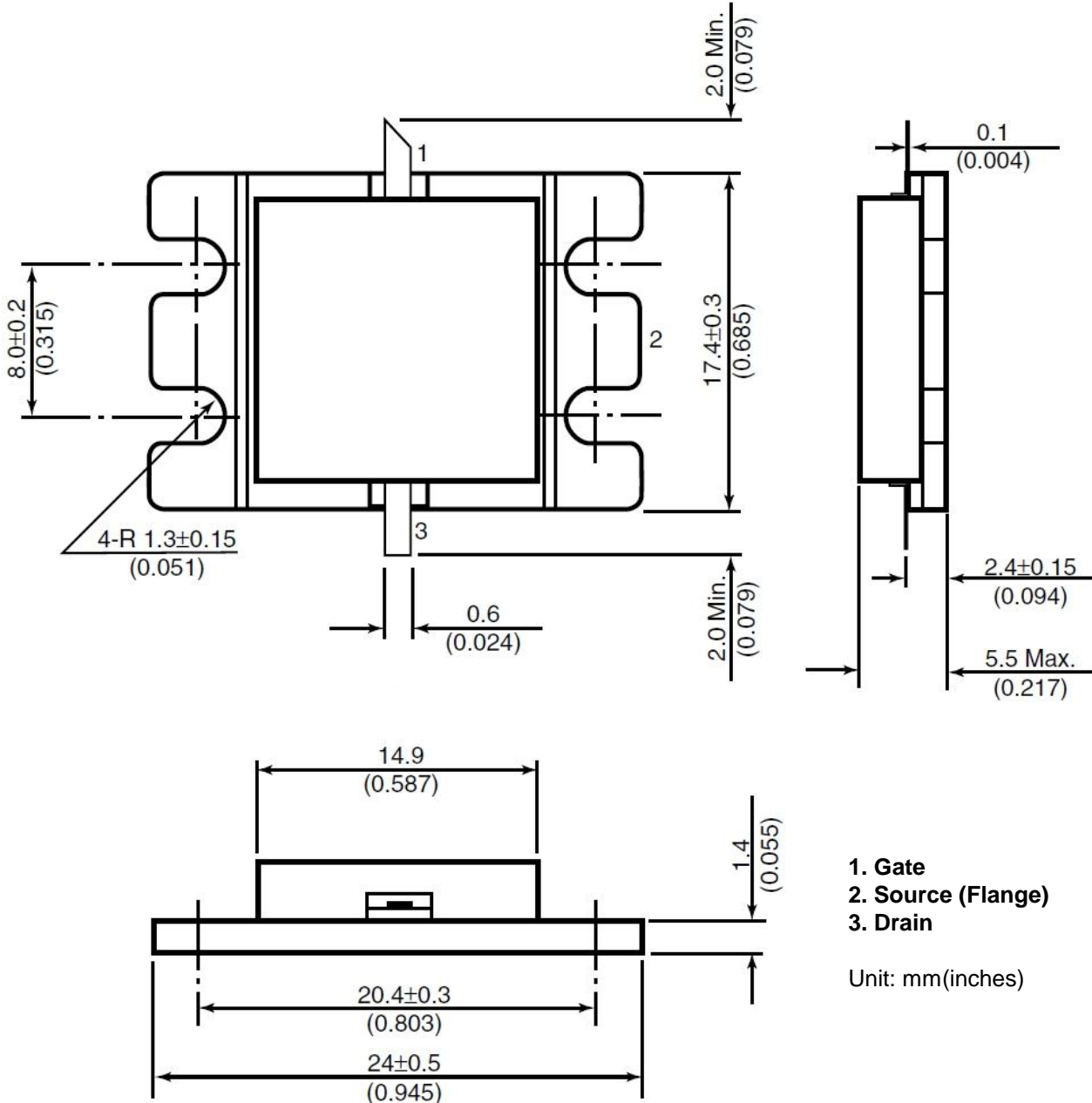


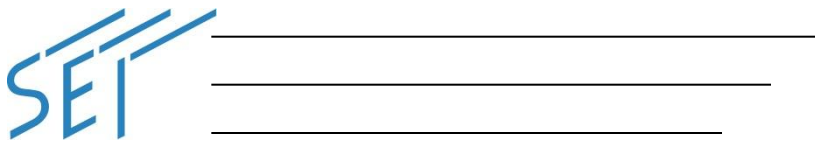
### S-PARAMETERS

$V_{DS} = 10V, I_{DS} = 4800mA$

FREQUENCY (MHz)	S11		S21		S12		S22	
	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
3000	0.226	-154.6	4.095	97.7	0.031	50.8	0.560	-19.9
3100	0.380	165.3	4.052	70.3	0.034	17.9	0.466	-40.8
3200	0.474	141.1	3.947	45.1	0.035	-7.0	0.396	-63.4
3300	0.498	121.2	3.896	21.3	0.040	-33.4	0.357	-88.8
3400	0.455	100.8	3.907	-3.0	0.045	-60.0	0.353	-117.4
3500	0.335	74.4	3.966	-29.1	0.047	-86.0	0.377	-146.8
3600	0.159	16.6	3.965	-58.7	0.053	-116.1	0.415	-177.5

**Case Style "IK"**  
**Metal-Ceramic Hermetic Package**





# **FLM3135-18F**

***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.