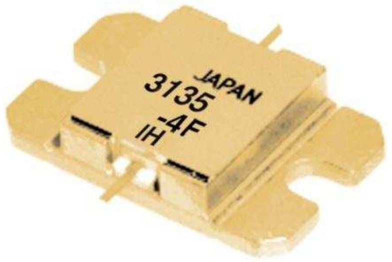
FLM3135-4F

C-Band Internally Matched FET

FEATURES

- High Output Power: P_{1dB} = 36.5dBm (Typ.)
- High Gain: G_{1dB} = 12.0dB (Typ.)
- High PAE: η_{add} = 38% (Typ.)
- Low IM3 = -45dBc@Po = 25.5dBm
- Broad Band: 3.1 to 3.5GHz
- Impedance Matched Zin/Zout = 50ohm
- Hermetically Sealed Package



DESCRIPTION

The FLM3135-4F 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 Ta=25deg.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 = 25deg.C	25	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 16.0 and -2.2 mA respectively with gate resistance of 100ohm.

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

Item	Symbol	Test Conditions	Limit			Unit
			Min.	Typ.	Max.	
Saturated Drain Current	I_{DSS}	V_{DS}=5V, V_{GS}=0V	-	1950	2900	mA
Transconductance	g_m	V_{DS}=5V, I_{DS}=1100mA	-	1000	-	mS
Pinch-off Voltage	V_p	V_{DS}=5V, I_{DS}=90mA	-1.0	-2.0	-3.5	V
Gate Source Breakdown Voltage	V_{GSO}	I_{GS}=-90uA	-5.0	-	-	V
Output Power at 1dB G.C.P.	P_{1dB}	V_{DS}=10V, I_{DS}=0.55 I_{DSS} (Typ.), f=3.1 to 3.5 GHz, Z_S=Z_L=50ohm	35.5	36.5	-	dBm
Power Gain at 1dB G.C.P.	G_{1dB}		11.0	12.0	-	dB
Drain Current	I_{dsr}		-	1100	1300	mA
Power-added Efficiency	η_{add}		-	38	-	%
Gain Flatness	ΔG		-	-	+/-0.6	dB
3rd Order Intermodulation Distortion	IM_3	f = 3.5 GHz, Δf = 10 MHz 2-Tone Test Pout = 25.5dBm S.C.L.	-42	-45	-	dBc
Thermal Resistance	R_{th}	Channel to Case	-	5.0	6.0	deg.C/W
Channel Temperature Rise	ΔT_{ch}	10V x I_{dsr} x R_{th}	-	-	80	deg.C

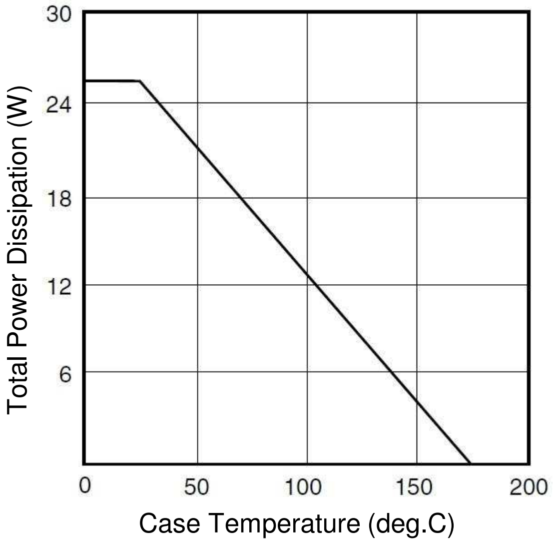
G.C.P.: Gain Compression Point, S.C.L.: Single Carrier Level

CASE STYLE	**IB**	
ESD	**Class 3A**	**4000V to 8000V**

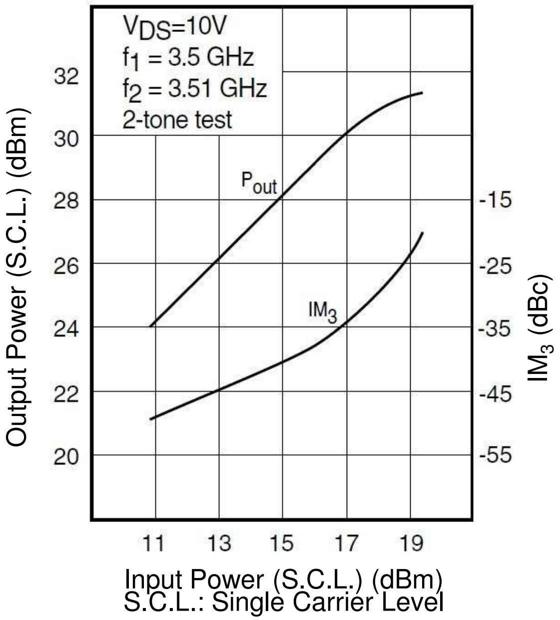
Note : Based on EIAJ ED-4701 C-111A (C=100pF, R=1.5kohm)

RoHS Compliance	**Yes**

POWER DERATING CURVE

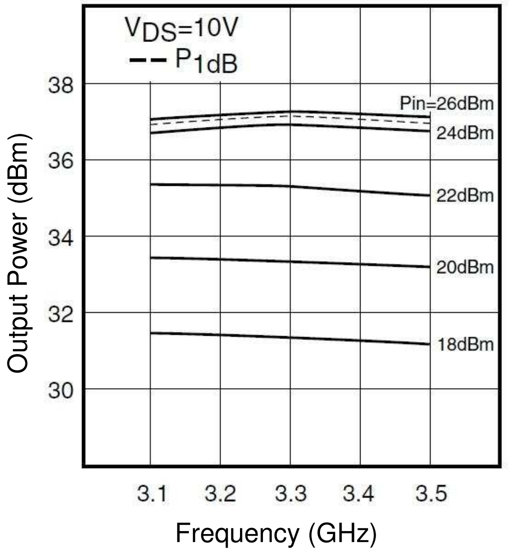


OUTPUT POWER & IM_3 vs. INPUT POWER

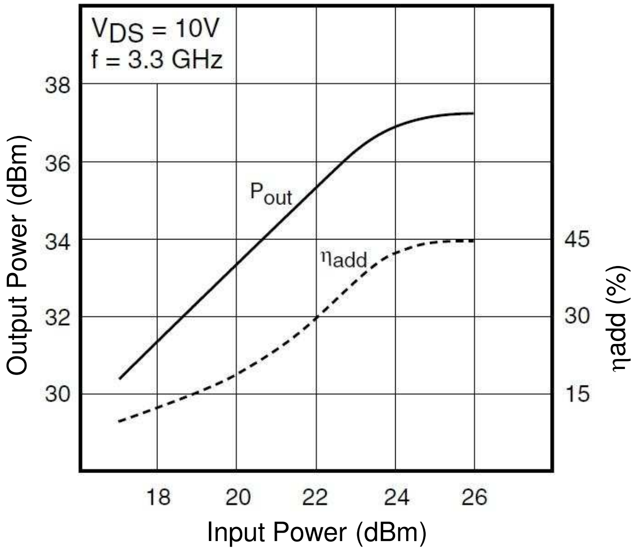


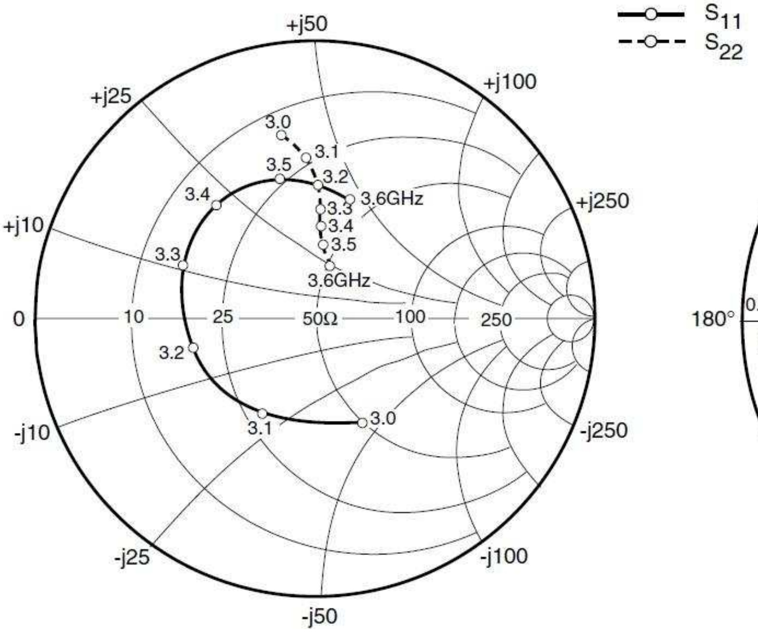
S.C.L.: Single Carrier Level

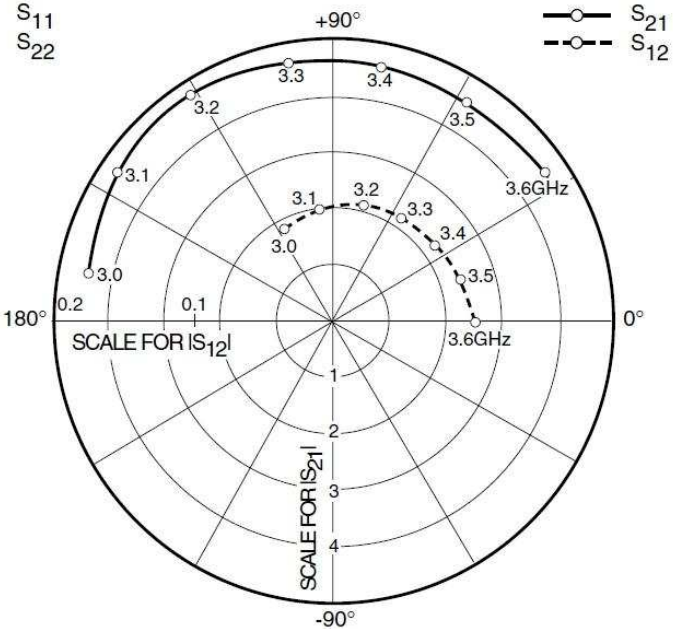
OUTPUT POWER vs. FREQUENCY



OUTPUT POWER vs. INPUT POWER





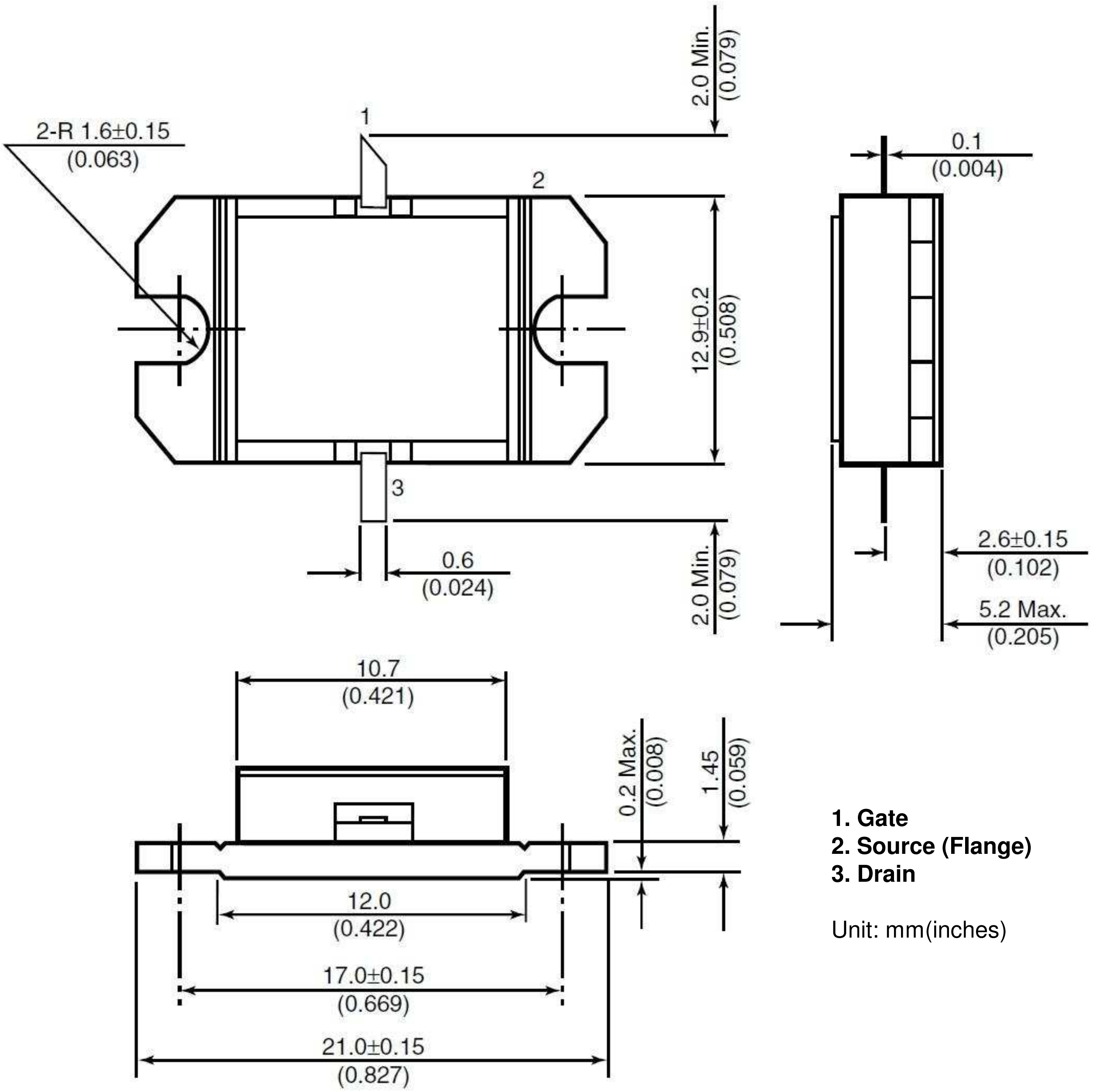


S-PARAMETERS

$V_{DS} = 10V$, $I_{DS} = 1100mA$

FREQUENCY	S11		S21		S12		S22	
(MHz)	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
3000	0.404	-66.7	4.467	169.3	0.074	119.4	0.678	100.7
3100	0.388	-120.4	4.711	145.8	0.081	97.0	0.582	93.1
3200	0.450	-167.3	4.741	122.5	0.085	75.2	0.478	88.6
3300	0.515	158.3	4.649	100.6	0.089	55.6	0.395	87.4
3400	0.548	130.3	4.553	79.5	0.090	36.8	0.332	86.9
3500	0.528	104.0	4.545	58.4	0.095	18.6	0.275	84.3
3600	0.445	74.0	4.607	35.5	0.101	-0.5	0.201	76.7

Case Style "IB"
Metal-Ceramic Hermetic Package



1. Gate
2. Source (Flange)
3. Drain

Unit: mm(inches)

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.