

TIM5359-16L

FEATURES :

- LOW INTERMODULATION DISTORTION
 $IM_3 = -45$ dBc at $P_o = 31.5$ dBm,
 Single Carrier Level
- HIGH POWER
 $P_{1dB} = 42.5$ dBm at 5.3 GHz to 5.9 GHz
- HIGH GAIN
 $G_{1dB} = 7.5$ dB at 5.3 GHz to 5.9 GHz
- BROAD BAND INTERNALLY MATCHED
- HERMETICALLY SEALED PACKAGE

RF PERFORMANCE SPECIFICATIONS ($T_a = 25^\circ\text{C}$)

CHARACTERISTICS	SYMBOL	CONDITION	UNIT	MIN.	TYP.	MAX.
Output Power at 1dB Compression Point	P_{1dB}	$V_{DS} = 10\text{ V}$ $f = 5.3 \sim 5.9\text{ GHz}$	dBm	41.5	42.5	-
Power Gain at 1dB Compression Point	G_{1dB}		dB	6.5	7.5	-
Drain Current	I_{DS1}		A	-	4.8	5.5
Gain Flatness	ΔG		dB	-	-	± 0.8
Power Added Efficiency	η_{add}		%	-	30	-
3rd Order Intermodulation Distortion	IM_3	Note 1	dBc	-42	-45	-
Drain Current	I_{DS2}		A	-	4.8	5.5
Channel-Temperature Rise	ΔT_{ch}	$V_{DS} \times I_{DS} \times R_{th(c-c)}$	$^\circ\text{C}$	-	-	80

ELECTRICAL CHARACTERISTICS ($T_a = 25^\circ\text{C}$)

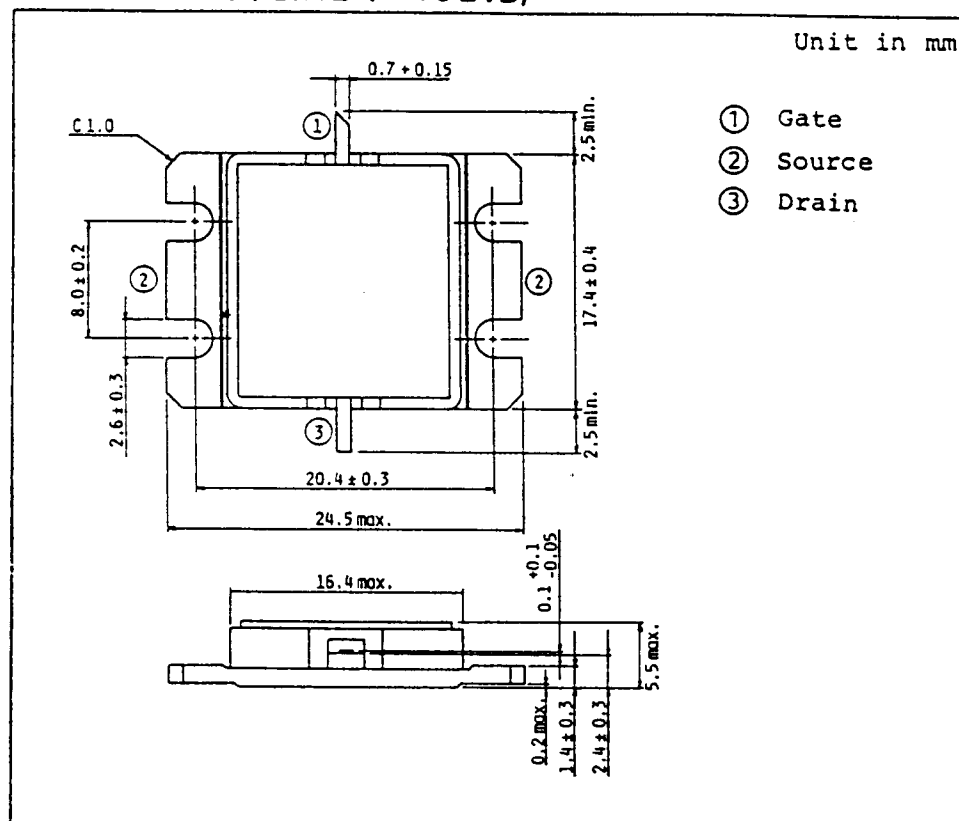
CHARACTERISTICS	SYMBOL	CONDITION	UNIT	MIN.	TYP.	MAX.
Trans-conductance	g_m	$V_{DS}=3\text{V}$ $I_{DS}=6.0\text{A}$	mS	-	3600	-
Pinch-off Voltage	V_{GSoff}	$V_{DS}=3\text{V}$ $I_{DS}=80\text{mA}$	V	-2	-3.5	-5.0
Saturated Drain Current	I_{DSS}	$V_{DS}=3\text{V}$ $V_{GS}=0\text{V}$	A	-	11.6	15.0
Gate-Source Breakdown Voltage	V_{GSO}	$I_{GS}=-240\mu\text{A}$	V	-5	-	-
Thermal Resistance	$R_{th(c-c)}$	Channel to Case	$^\circ\text{C/W}$	-	1.4	1.8

Note 1: 2 tone Test $P_{out}=31.5\text{dBm}$ Single Carrier Level.

ABSOLUTE MAXIMUM RATINGS ($T_a = 25^\circ\text{C}$)

CHARACTERISTICS	SYMBOL	UNIT	RATING
Drain-Source Voltage	V_{DS}	V	15
Gate-Source Voltage	V_{GS}	V	-5
Drain Current	I_{DS}	A	16
Total Power Dissipation ($T_C=25^\circ\text{C}$)	P_T	W	70
Channel Temperature	T_{ch}	$^\circ\text{C}$	175
Storage Temperature	T_{stg}	$^\circ\text{C}$	-65~175

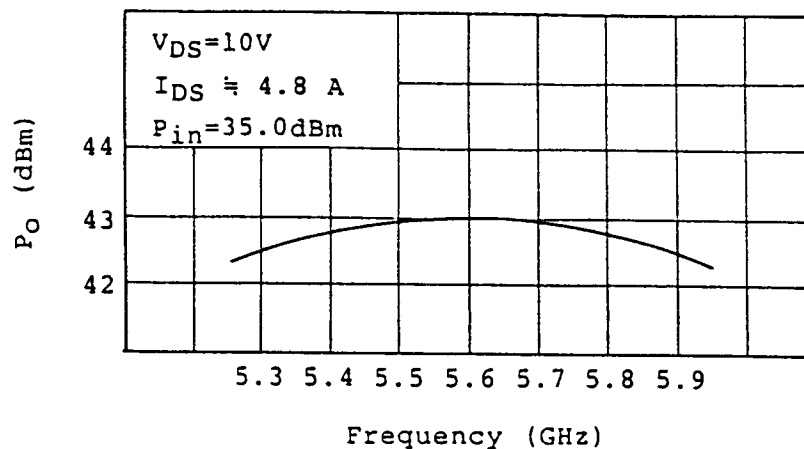
PACKAGE OUTLINE (2-16G1B)

HANDLING PRECAUTIONS FOR PACKAGED TYPE

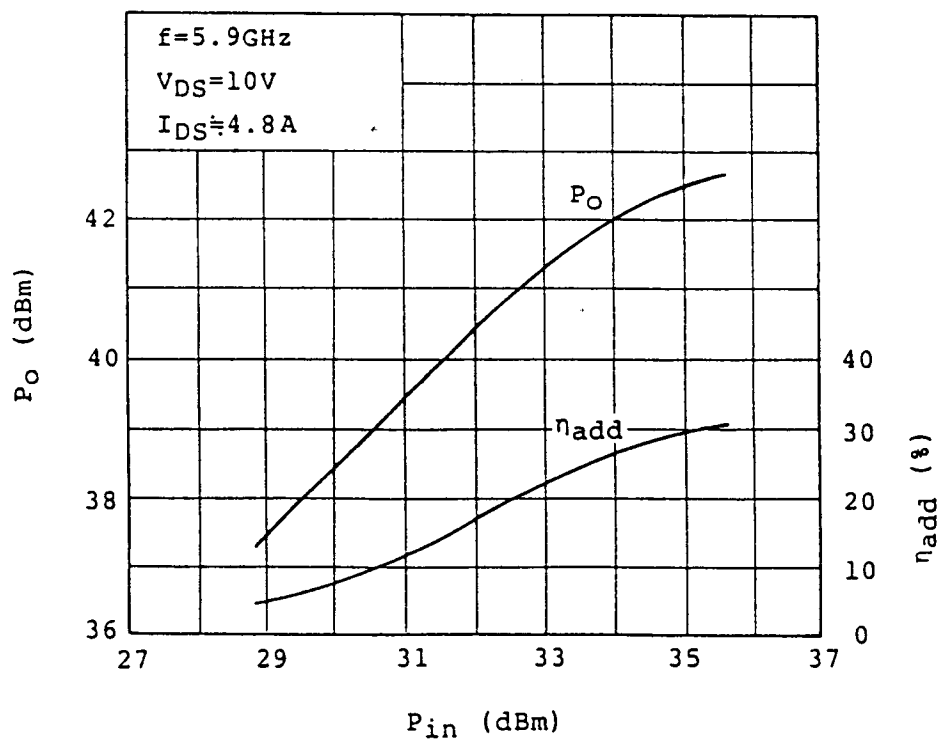
Soldering iron should be grounded and the operating time should not exceed 10 seconds at 260°C .

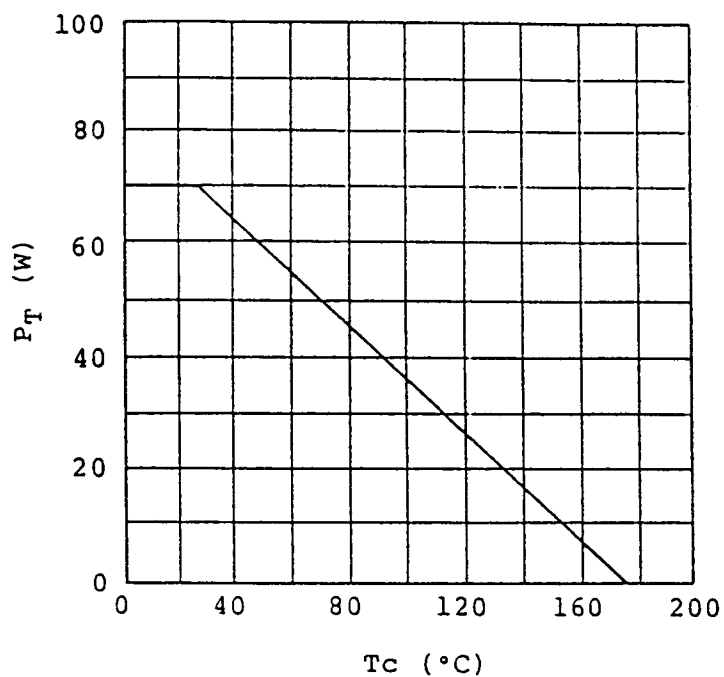
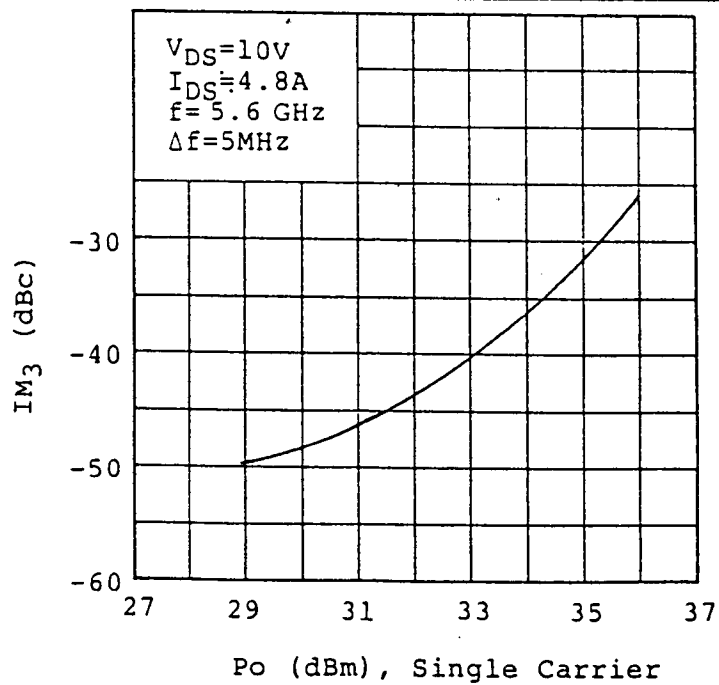
RF PERFORMANCES

Output Power vs. Frequency



Output Power vs. Input Power



POWER DISSIPATION VS. CASE TEMPERATUREIM₃ VS. OUTPUT POWER CHARACTERISTICS

TIM5359-16L S-PARAMETERS (MANG. and ANGLES)

$$V_{DS} = 10 \text{ V}, I_{DS} = 4.0 \text{ A}$$

$$f = 4.9\text{--}6.3 \text{ GHz}$$

