

TIM5359-35SL

FEATURES :

■ LOW INTERMODULATION DISTORTION

IM3 = -45dBc at Po = 35.0dBm

■ HIGH POWER

P1dB = 45.5dBm at 5.3 to 5.9 GHz

■ HIGH EFFICIENCY

η_{add} = 38 % at 5.3 to 5.9 GHz

■ HIGH GAIN

G1dB = 8.5 dB at 5.3 to 5.9 GHz

■ BROAD BAND INTERNALLY MATCHED

■ HERMETICALLY SEALED PACKAGE

RF PERFORMANCE SPECIFICATIONS (Ta = 25°C)

CHARACTERISTICS	SYMBOL	CONDITION	UNIT	MIN.	TYP.	MAX.
Output Power at 1 dB Compression Point	P _{1dB}	V _{DS} = 10 V f = 5.3 ~ 5.9 GHz	dBm	45.0	45.5	—
Power Gain at 1 dB Compression Point	G _{1dB}		dB	7.5	8.5	—
Drain Current	I _{DS}		A	—	8.0	9.0
Power Added Efficiency	η_{add}		%	—	38	—
3rd Order Intermodulation Distortion	IM ₃	Note 1	dBc	-42	-45	—
Channel-Temperature Rise	ΔT_{ch}	V _{DS} × I _{DS} × R _{th} (c-c)	°C	—	—	100

ELECTRICAL CHARACTERISTICS (Ta = 25°C)

CHARACTERISTICS	SYMBOL	CONDITION	UNIT	MIN.	TYP.	MAX.
Transconductance	gm	V _{DS} = 3 V I _{DS} = 10.5A	mS	—	6500	—
Pinch-off Voltage	V _{GSoff}	V _{DS} = 3 V I _{DS} = 140mA	V	-1.0	-2.5	-4.0
Saturated Drain Current	I _{DSS}	V _{DS} = 3 V V _{GS} = 0 V	A	—	20	26
Gate-Source Breakdown Voltage	V _{GSO}	I _{GS} = -420μA	V	-5	—	—
Thermal Resistance	R _{th} (c-c)	Channel to Case	°C/W	—	1.0	1.3

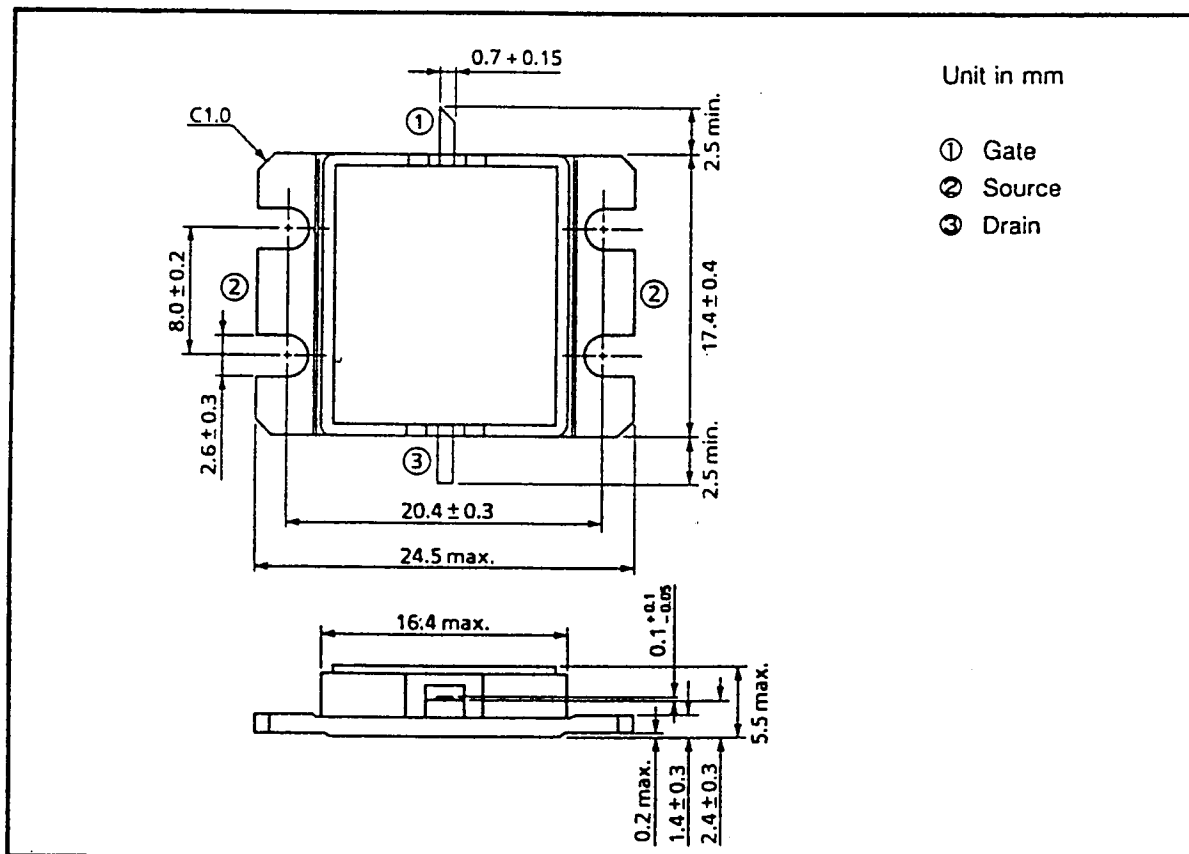
Note 1 : 2 tone Test Pout = 35dBm Single Carrier Level.

Recommended Gate Resistance(R_g) : R_g = R_{g1}(10 Ω) + R_{g2}(18 Ω) = 28 Ω (MAX.)

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	26
Total Power Dissipation ($T_C = 25^\circ\text{C}$)	P_T	W	115
Channel Temperature	T_{ch}	$^\circ\text{C}$	175
Storage Temperature	T_{stg}	$^\circ\text{C}$	-65~175

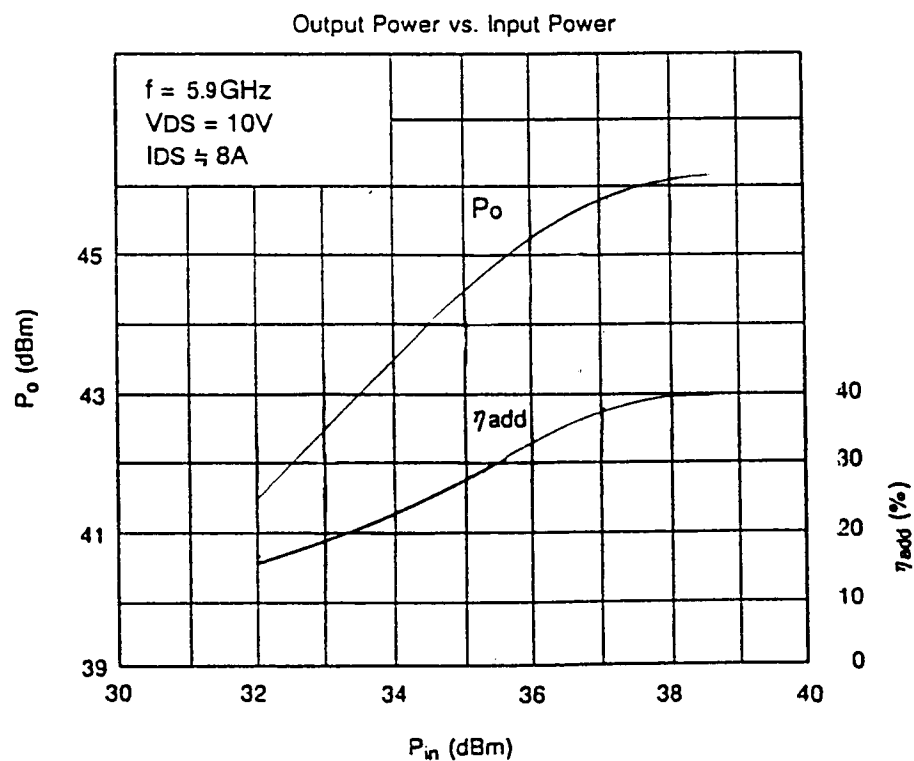
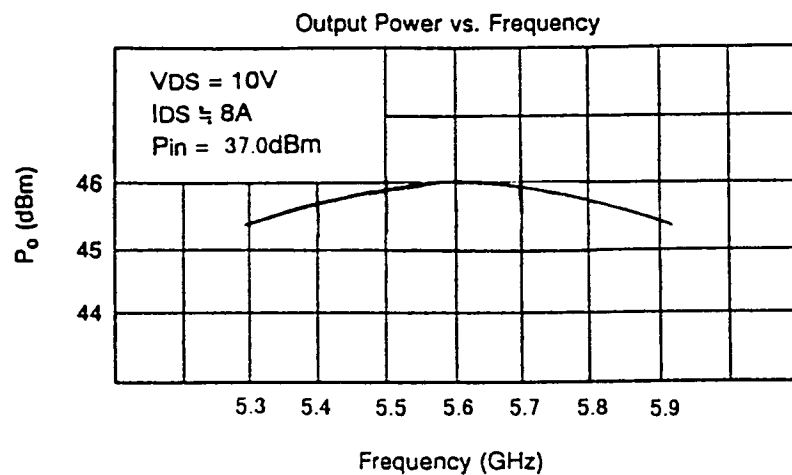
PACKAGE OUTLINE (2-16G1B)



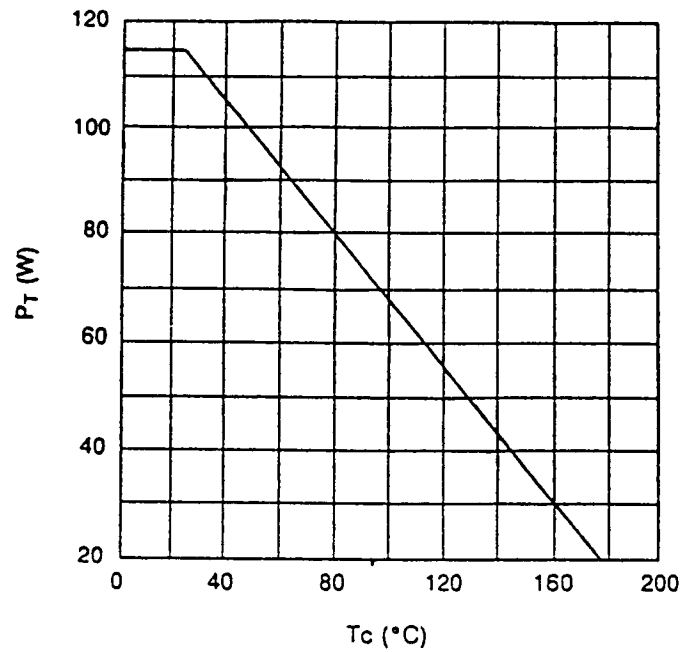
HANDLING PRECAUTIONS FOR PACKAGED TYPE

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

RF PERFORMANCES



POWER DISSIPATION VS. CASE TEMPERATURE



IM₃ VS. OUTPUT POWER CHARACTERISTICS

