# TOSHIBA

# MICROWAVE SEMICONDUCTOR TECHNICAL DATA

# MICROWAVE POWER MMIC AMPLIFIER

## TMD1013-1-431

#### **FEATURES**

- High Power P1dB=33dBm(TYP.)
- High Power Added Efficiency ηadd=14%(TYP.)
- High Gain G1dB=25dB(TYP.)
- Operable Frequency : f=10.0-12.0GHz.

### ABSOLUTE MAXIMUM RATINGS(Ta=25°C)

CHARACTERISTICS	SYMBOL	UNIT	RATINGS					
DRAIN SUPPLY VOLTAGE	VDD	V	15					
GATE SUPPLY VOLTAGE	VGG	V	-10					
INPUT POWER	Pin	dB	7					
FLANGE TEMPERATURE	Tf	°C	-30 to +80					
STORAGE TEMPERATURE	Tstg	°C	-65 to +175					

#### RF PERFORMANCE SPECIFICATIONS (Ta=25°C)

MI LEM ORMANCE SI ECHICATIONS (14-23 C)									
CHARACTERISTICS	SYMBOL	CONDITION	UNIT	MIN.	TYP.	MAX.			
Operating Frequency	f		GHz	10.0	_	12.0			
Output Power at 1dB	P1dB		dBm	31	33				
Gain Compression Point		VDD=10V							
Power Gain at 1dB	G1dB	VGG= -5V	dB	21	25				
Gain Compression Point									
Gain Flatness	$\Delta G$		dB			2.5			
Drain Current	IDD		A		1.4	1.8			
Power Added Efficiency	ηadd		%	_	14	_			
Third Order Intermodulation	IM3	2 Tone @	dBc	-42	-45				
Distortion		Po=19dBm(SCL)							
VSWRin (small signal)	VSWRin				2.0	3.0			

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