

Preliminary
5.0 GHz 37 dBm Prematched FETs
FEATURES

- 37dBm Typical Power at 5.0 GHz
- High Associated Gain:
 $G_a = 9$ dB Typical at 5.0 GHz
- High Efficiency:
 Efficiency ≥ 40 % for Class AB Operation
- Suitable for High Reliability Application
- $Wg = 12$ mm
- 100 % DC and RF Tested
- Flange Ceramic Package

PHOTO ENLARGEMENT

DESCRIPTION

The TC3989A is a 37dBm partially prematched power FET assembled in a flange ceramic package. It requires simple matching networks to achieve high gain and high linearity for 5.0 GHz applications. All devices are 100 % DC and RF tested to assure consistent quality.

ELECTRICAL SPECIFICATIONS
 $V_D = 12$ V, $I_{dq} = 180$ mA, $f = 5.0$ GHz

PARAMETERS	CONDITIONS	MIN	TYP	MAX	UNIT
Freq		4.9		5.1	GHz
P_1 *		37	37.5		dBm
G_a *		8	9		dB
Efficiency	@ P_1		40		%
I_{DSS}	$V_{DS} = 2$ V, $V_{GS} = 0$ V		3		A
g_m	$V_{DS} = 2$ V, $V_{GS} = 0$ V		2000		mS
V_P	$V_{DS} = 2$ V, $I_D = 24$ mA		-1.7		Volts
BV_{DGO}	$I_{DGO} = 6$ mA	18	22		Volts
R_{th}			3.5		$^{\circ}C/W$

* FET TO BE TESTED IN TRANSCOM FIXTURE.

ABSOLUTE MAXIMUM RATINGS at 25 $^{\circ}C$

Symbol	Parameter	Rating
V_{DS}	Drain-Source Voltage	14 V
V_{GS}	Gate-Source Voltage	-5 V
I_D	Drain Current	3 A
P_T	Continuous Dissipation	19.2 W
P_{in}	Input Power, CW	33 dBm
T_{CH}	Channel Temperature	175 $^{\circ}C$
T_{STG}	Storage Temperature	- 65 $^{\circ}C$ to +175 $^{\circ}C$



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PRE.0_05/02/2005



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Notes