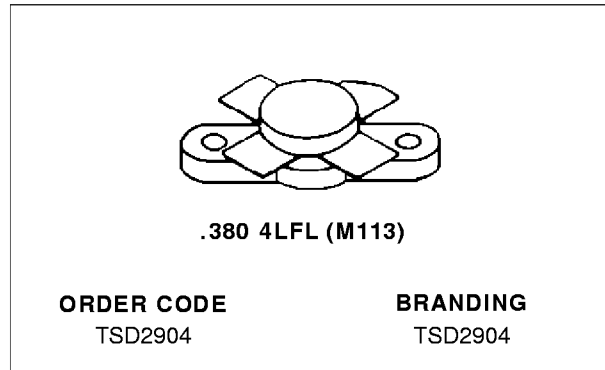


RF & MICROWAVE TRANSISTORS HF/VHF/UHF N-CHANNEL MOSFETS

PRODUCT DEVELOPMENT DATA SHEET

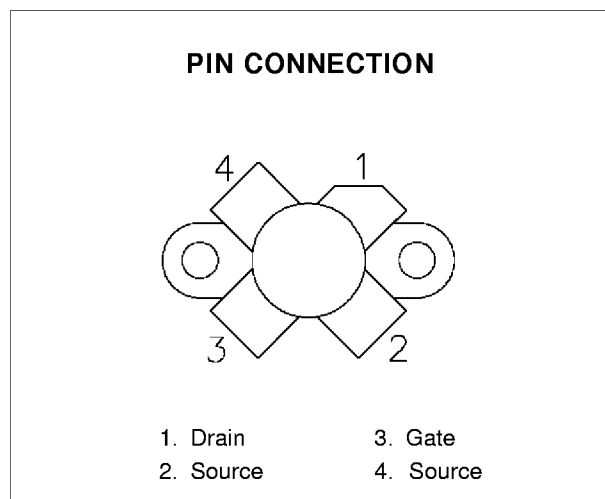
This data sheet contains the design criteria and target specifications for a product which is currently under development by SGS-THOMSON. The design criteria and specifications of this item could change prior to introduction and SGS-THOMSON assumes no liability for use of information contained herein.

- 2 - 500 MHz
- 30 WATTS
- 28 VOLTS
- 13 dB MIN. AT 400 MHz
- CLASS A OR AB



DESCRIPTION

The TSD2904 is a gold metallized N-channel MOS field effect RF power transistor. The TSD2904 is intended for use in 28V DC large signal applications up to 400 MHz.



ABSOLUTE MAXIMUM RATINGS ($T_{case} = 25^{\circ}C$)

Symbol	Parameter	Value	Unit
$V_{(BR)DSS}$	Drain-Source Voltage	60	V
V_{DGR}	Drain-Gate Voltage	60	V
V_{GS}	Gate-Source Voltage	+/- 20	V
I_D	Drain Current	7.0	A
P_{DISS}	Power Dissipation	98	W
T_J	Junction Temperature	+200	$^{\circ}C$
T_{STG}	Storage Temperature	- 65 to +150	$^{\circ}C$

THERMAL DATA

$R_{TH(j-c)}$	Junction-Case Thermal Resistance	1.8	$^{\circ}C/W$
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ELECTRICAL SPECIFICATIONS ($T_{case} = 25^{\circ}C$)

STATIC

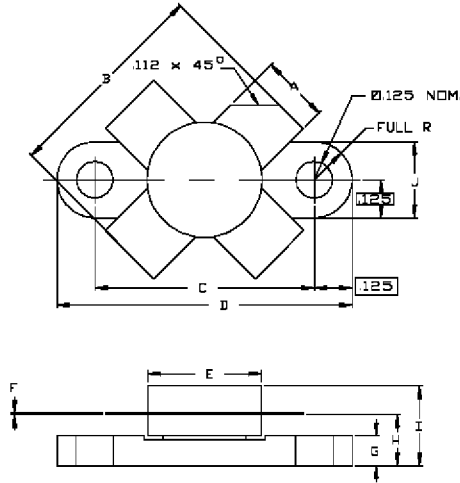
Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
$V_{(BR)DSS}$	$V_{GS} = 0V$	$I_{DS} = 10mA$	60	—	—	V
I_{DSS}	$V_{GS} = 0V$	$V_{DS} = 28V$	—	—	1	mA
I_{GSS}	$V_{GS} = 20V$	$V_{DS} = 0V$	—	—	1	μA
G_{FS}	$V_{DS} = 10V$	$I_D = 2.5A$	0.9	—	—	mho
C_{ISS}	$V_{GS} = 0V$	$V_{DS} = 28V$	—	34	—	pF
C_{OSS}	$V_{GS} = 0V$	$V_{DS} = 28V$	—	23	—	pF
C_{RSS}	$V_{GS} = 0V$	$V_{DS} = 28V$	—	5	—	pF
$V_{DS(ON)}$	$V_{DS} = 10V$	$I_D = 2.5mA$	—	—	2.0	V
$V_{GS(TH)}$	$V_{DS} = 10V$	$I_D = 10mA$	1.0	4.2	6.0	V

DYNAMIC

Symbol	Test Conditions		Value			Unit		
			Min.	Typ.	Max.			
P_L	$f = 400MHz$	$V_{DD} = 28V$	$I_{DQ} = 50mA$	30	—	—	W	
G_{PS}	$f = 400MHz$	$V_{DD} = 28V$	$P_{out} = 30 W$	$I_{DQ} = 50mA$	13	14	—	dB
η_D	$f = 400MHz$	$V_{DD} = 28V$	$P_{out} = 30 W$	$I_{DQ} = 50mA$	—	50	—	%

PACKAGE MECHANICAL DATA

Ref.: Dwg. No. 12-0113
UDCS No. 1010936 rev B



SGS-THOMSON MICROELECTRONICS		
	MINIMUM Inches/mm	MAXIMUM Inches/mm
A	.220/5,59	.230/5,84
B	.785/19,94	
C	.720/18,29	.730/18,54
D	.970/24,64	.980/24,89
E		.385/9,78
F	.004/0,10	.006/0,15
G	.085/2,16	.105/2,67
H	.160/4,06	.180/4,57
I		.280/7,11
J	.240/6,10	.255/6,48

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