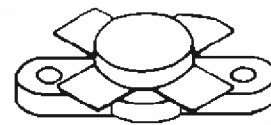


**TSD2904****RF & MICROWAVE TRANSISTORS
HF/VHF/UHF N-CHANNEL MOSFETS****PRODUCT DEVELOPMENT DATA SHEET**

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

**.380 4LFL (M113)****ORDER CODE**

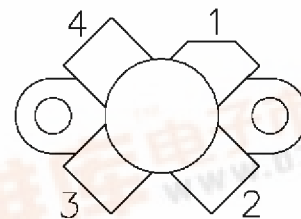
TSD2904

BRANDING

TSD2904

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.

PIN CONNECTION

- | | |
|-----------|-----------|
| 1. Drain | 3. Gate |
| 2. Source | 4. Source |

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 ($T_{\text{case}} = 25^{\circ}\text{C}$)**STATIC**

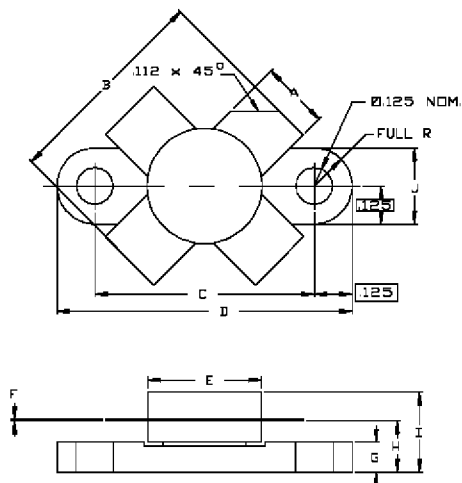
Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
$V_{(\text{BR})\text{DSS}}$	$V_{\text{GS}} = 0\text{V}$	$I_{\text{DS}} = 10\text{mA}$	60	—	—	V
I_{DSS}	$V_{\text{GS}} = 0\text{V}$	$V_{\text{DS}} = 28\text{V}$	—	—	1	mA
I_{GSS}	$V_{\text{GS}} = 20\text{V}$	$V_{\text{DS}} = 0\text{V}$	—	—	1	μA
G_{FS}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

DYNAMIC

Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
P_{L}	$f = 400\text{MHz}$	$V_{\text{DD}} = 28\text{V}$	30	—	—	W
G_{PS}	$f = 400\text{MHz}$	$V_{\text{DD}} = 28\text{V}$	13	14	—	dB
η_{D}	$f = 400\text{MHz}$	$V_{\text{DD}} = 28\text{V}$	—	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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