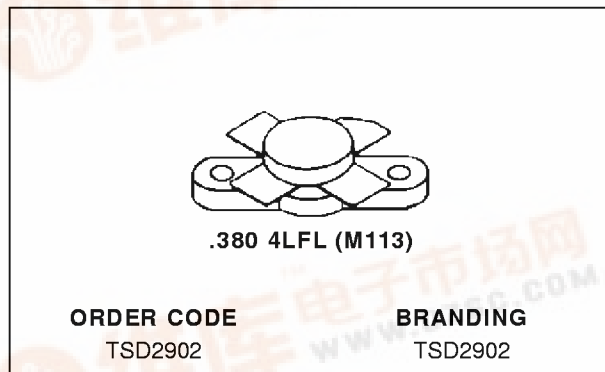


RF & MICROWAVE TRANSISTORS
HF/VHF/UHF N-CHANNEL MOSFETS

PRODUCT DEVELOPMENT DATA SHEET

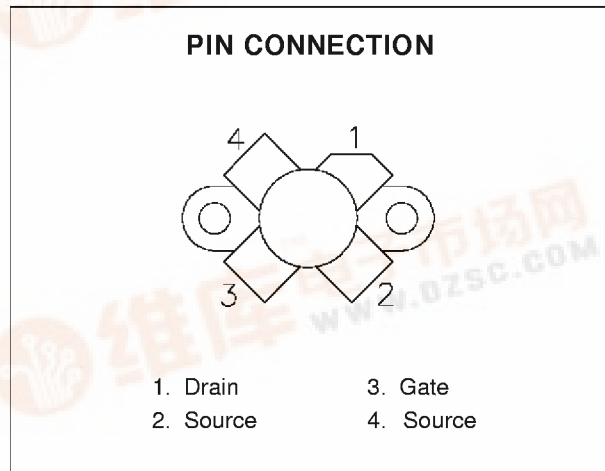
This data sheet contains the design criteria and target specifications for a product which is currently under development by SGS-THOMSON. The design criteria and specifications of this item could change prior to introduction and SGS-THOMSON assumes no liability for use of information contained herein.

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



DESCRIPTION

The TSD2902 is a gold metallized N-channel MOS field effect RF power transistor. The TSD2902 is intended for use in 28V DC large signal applications up to 400 MHz.



ABSOLUTE MAXIMUM RATINGS (T_{case} = 25°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	3.9	A
P _{DISS}	Power Dissipation	55.0	W
T _J	Junction Temperature	+200	°C
T _{STG}	Storage Temperature	- 65 to +150	°C

THERMAL DATA

R _{TH(j-c)}	Junction-Case Thermal Resistance	3.2	°C/W
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TSD2902

ELECTRICAL SPECIFICATIONS ($T_{\text{case}} = 25^{\circ}\text{C}$)

STATIC

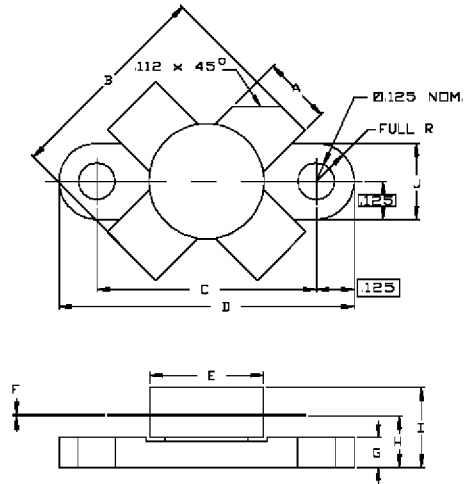
Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
$V_{(\text{BR})\text{DSS}}$	$V_{\text{GS}} = 0\text{V}$	$I_{\text{DS}} = 5\text{mA}$		60	—	—	V
I_{DSS}	$V_{\text{GS}} = 0\text{V}$	$V_{\text{DS}} = 28\text{V}$		—	—	1	mA
I_{GSS}	$V_{\text{GS}} = 20\text{V}$	$V_{\text{DS}} = 0\text{V}$		—	—	1	μA
G_{FS}	$V_{\text{DS}} = 10\text{V}$	$I_{\text{D}} = 1.25\text{A}$		0.5	—	—	mho
C_{ISS}	$V_{\text{GS}} = 0\text{V}$	$V_{\text{DS}} = 28\text{V}$	$F = 1\text{MHz}$	—	20	—	pF
C_{OSS}	$V_{\text{GS}} = 0\text{V}$	$V_{\text{DS}} = 28\text{V}$	$F = 1\text{MHz}$	—	13	—	pF
C_{RSS}	$V_{\text{GS}} = 0\text{V}$	$V_{\text{DS}} = 28\text{V}$	$F = 1\text{MHz}$	—	3	—	pF
$V_{\text{GS(TH)}}$	$V_{\text{DS}} = 10\text{V}$	$I_{\text{D}} = 25\text{mA}$		1.0	4.5	6.0	V

DYNAMIC

Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
P_{L}	$f = 400\text{MHz}$	$V_{\text{DD}} = 28\text{V}$	$I_{\text{DQ}} = 50\text{ mA}$	15	—	—	W
G_{PS}	$f = 400\text{MHz}$	$V_{\text{DD}} = 28\text{V}$	$P_{\text{OUT}} = 30\text{W}$	14	15	—	dB
η_{D}	$f = 400\text{MHz}$	$V_{\text{DD}} = 28\text{V}$	$P_{\text{OUT}} = 30\text{ W}$	—	50	—	%

PACKAGE MECHANICAL DATA

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



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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