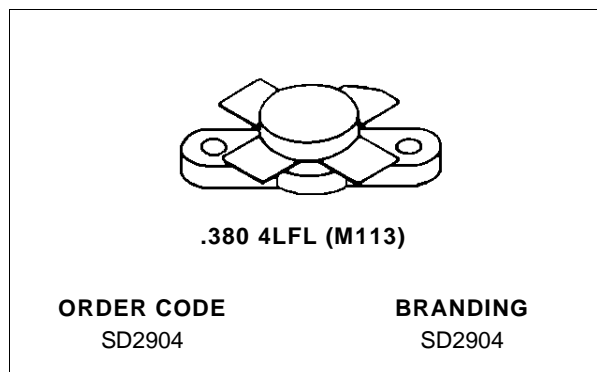


RF & MICROWAVE TRANSISTORS HF/VHF/UHF N-CHANNEL MOSFETS

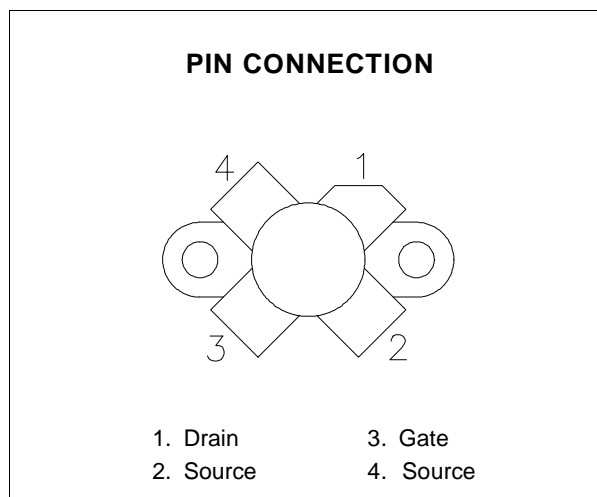
PRELIMINARY DATA

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



DESCRIPTION

The SD2904 is a gold metallized N-channel MOS field effect RF power transistor. The SD2904 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 _{DSS}	Drain-Source Voltage	65	V
V _{DGR}	Drain-Gate Voltage (R _{GS} = 1.0 MΩ)	65	V
V _{GS}	Gate-Source Voltage	+/- 20	V
I _D	Drain Current	5.0	A
P _{DISS}	Power Dissipation (T _{heatsink} ≤ 25°C)	85.4	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	1.75	°C/W
R _{TH(c-s)}	Case-Heatsink Thermal Resistance	0.30	°C/W

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

STATIC

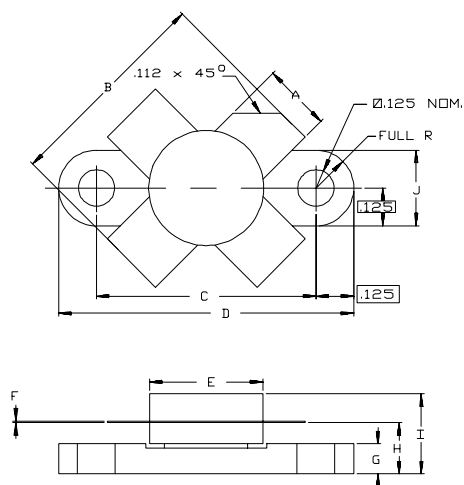
Symbol	Test Conditions		Value			Unit	
			Min.	Typ.	Max.		
$V_{(\text{BR})\text{DSS}}$	$V_{\text{GS}} = 0\text{V}$	$I_{\text{DS}} = 30\text{mA}$	65	—	—	V	
I_{DSS}	$V_{\text{GS}} = 0\text{V}$	$V_{\text{DS}} = 28\text{V}$	—	—	3	mA	
I_{GSS}	$V_{\text{GS}} = 20\text{V}$	$V_{\text{DS}} = 0\text{V}$	—	—	2	μA	
G_{FS}	$V_{\text{DS}} = 10\text{V}$	$I_{\text{D}} = 3\text{A}$	1.2	—	—	mho	
C_{ISS}	$V_{\text{GS}} = 0\text{V}$	$V_{\text{DS}} = 28\text{V}$	$F = 1\text{MHz}$	—	—	60	pF
C_{OSS}	$V_{\text{GS}} = 0\text{V}$	$V_{\text{DS}} = 28\text{V}$	$F = 1\text{MHz}$	—	—	54	pF
C_{RSS}	$V_{\text{GS}} = 0\text{V}$	$V_{\text{DS}} = 28\text{V}$	$F = 1\text{MHz}$	—	—	9.6	pF
$V_{\text{DS(ON)}}$	$V_{\text{GS}} = 10\text{V}$	$I_{\text{D}} = 3\text{A}$	—	—	1.6	V	
$V_{\text{GS(TH)}}$	$V_{\text{DS}} = 10\text{V}$	$I_{\text{D}} = 60\text{mA}$	1.0	4.2	6.0	V	

DYNAMIC

Symbol	Test Conditions		Value			Unit		
			Min.	Typ.	Max.			
P_{L}	$f = 400\text{MHz}$	$V_{\text{DD}} = 28\text{V}$	$I_{\text{DQ}} = 50\text{mA}$	30	—	—	W	
G_{PS}	$f = 400\text{MHz}$	$V_{\text{DD}} = 28\text{V}$	$P_{\text{out}} = 30\text{ W}$	$I_{\text{DQ}} = 50\text{mA}$	10	11	—	dB
η_{D}	$f = 400\text{MHz}$	$V_{\text{DD}} = 28\text{V}$	$P_{\text{out}} = 30\text{ W}$	$I_{\text{DQ}} = 50\text{mA}$	45	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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