SGS-THOMSON MICROELECTRONICS

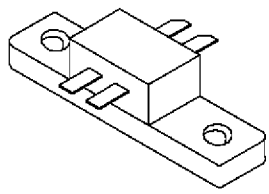
TSD2903

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.

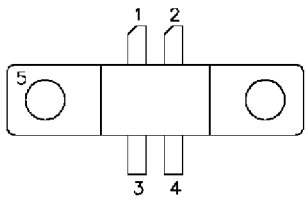
- 2 - 500 MHz
- 30 WATTS
- 28 VOLTS
- 14 dB MIN. AT 400 MHz
- CLASS A OR AB



.230 x .360 4L FL
(M229)

ORDER CODE	BRANDING
TSD2902	TSD2902

PIN CONNECTION



1. Drain
2. Drain
3. Gate
4. Gate
5. Source

DESCRIPTION

The TSD2903 is a gold metallized N-channel MOS field effect RF power transistor. The TSD2903 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	1.6	°C/W

ELECTRICAL SPECIFICATIONS (T_{case} = 25°C)

STATIC

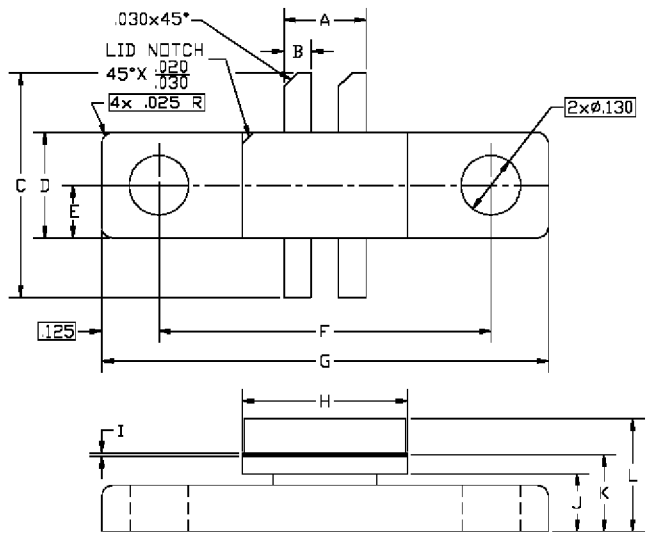
Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
$V_{(BR)DSS}$	V_{GS} = 0V	I_{DS} = 5mA		60	—	—	V
I_{DSS}	V_{GS} = 0V	V_{DS} = 28V		—	—	1	mA
I_{GSS}	V_{GS} = 20V	V_{DS} = 0V		—	—	1	µA
G_{FS}	V_{DS} = 10V	I_D = 1.25A		0.5	—	—	mho
C_{ISS}	V_{GS} = 0V	V_{DS} = 28V	F = 1MHz	—	20	—	pF
C_{OSS}	V_{GS}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

DYNAMIC

Symbol	Test Conditions				Value			Unit
					Min.	Typ.	Max.	
P_L	f = 400MHz	V_{DD} = 28V		I_{DQ} = 2x25mA	30	—	—	W
G_{PS}	f = 400MHz	V_{DD} = 28V	P_{OUT} = 30W	I_{DQ} = 2x25mA	14	15	—	dB
η_D	f = 400MHz	V_{DD} = 28V	P_{OUT} = 30W	I_{DQ} = 25x2mA	—	50	—	%

PACKAGE MECHANICAL DATA

Ref.: Dwg. No. 12-0229
UDCS No. 1008194 rev B



SGS-THOMSON MICROELECTRONICS		
	MINIMUM Inches/mm	MAXIMUM Inches/mm
A	.175/4.45	.185/4.70
B	.055/.140	.065/1.65
C	.470/11.94	.510/12.95
D	.225/5.72	.235/5.97
E	.115/2.92	
F	.720/18.29	.730/18.54
G	.970/24.64	.980/24.89
H	.355/9.02	.365/9.27
I	.004/0.10	.006/0.15
J	.120/3.05	.130/3.30

CONT'D		
	MINIMUM Inches/mm	MAXIMUM Inches/mm
K	.160/4.06	.175/4.45
L	.230/5.84	.260/6.60