



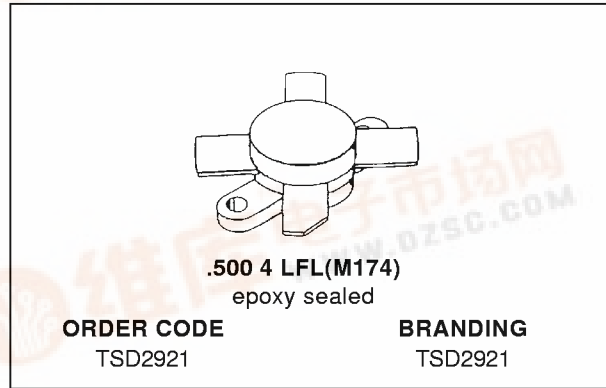
# TSD2921

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

### PRODUCT DEVELOPMENT DATA SHEET

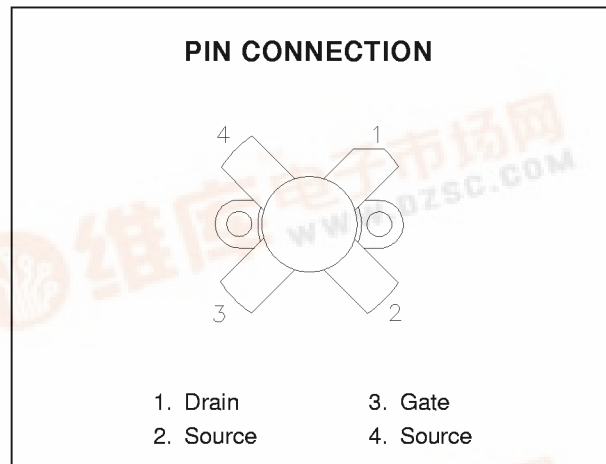
This data sheet contains the design criteria and target specifications for a product which is currently under development by SGS-THOMSON. The design criteria and specifications of this item could change prior to introduction and SGS-THOMSON assumes no liability for use of information contained herein.

- GOLD METALLIZATION
- NO THERMAL RUNAWAY
- COMMON SOURCE CONFIGURATION
- $P_{OUT} = 150W$  MIN. WITH 12 dB GAIN @ 175 MHz



### DESCRIPTION

The TSD2921 is a gold metallized N-Channel MOS field-effect RF power transistor. The TSD2921 is intended for use in 50 V dc large signal applications up to 200 MHz.



### ABSOLUTE MAXIMUM RATINGS (T<sub>case</sub> = 25°C)

Symbol	Parameter	Value	Unit
V <sub>(BR)DSS</sub>	Drain-Source Voltage	125	V
V <sub>DGR</sub>	Drain-Gate Voltage	125	V
V <sub>GS</sub>	Gate-Source Voltage	± 40	V
I <sub>D</sub>	Drain Current	TBD	A
P <sub>DISS</sub>	Power Dissipation	300	W
T <sub>J</sub>	Junction Temperature	+200	°C
T <sub>STG</sub>	Storage Temperature	- 65 to +150	°C

### THERMAL DATA

R <sub>TH(j-c)</sub>	Junction-Case Thermal Resistance	.6 (TYP)	°C/W
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## TSD2921

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

#### STATIC

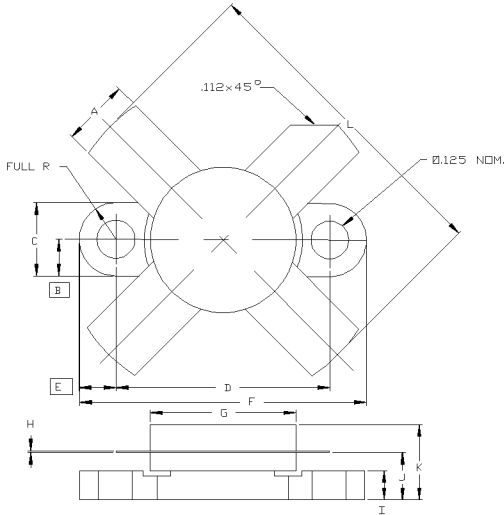
Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
$V_{(\text{BR})\text{DSS}}$	$V_{\text{GS}} = 0\text{V}$	$I_{\text{DS}} = 100\text{ mA}$	125	—	—	V	
$I_{\text{DSS}}$	$V_{\text{GS}} = 0\text{V}$	$V_{\text{DS}} = 50\text{V}$	—	—	5.0	mA	
$G_{\text{FS}}$	$V_{\text{DS}} = 10\text{V}$	$I_{\text{D}} = 5\text{A}$	4	—	—	mhos	
$C_{\text{ISS}}$	$V_{\text{GS}} = 0\text{V}$	$V_{\text{DS}} = 50\text{V}$	$F = 1\text{MHz}$	—		V	
$C_{\text{OSS}}$	$V_{\text{GS}} = 0\text{V}$	$V_{\text{DS}} = 50\text{V}$	$F = 1\text{MHz}$	—		mA	
$C_{\text{RSS}}$	$V_{\text{GS}} = 0\text{V}$	$V_{\text{DS}} = 50\text{V}$	$F = 1\text{MHz}$	—		—	
$V_{\text{GS}(\text{TH})}$	$V_{\text{DS}} = 10\text{V}$	$I_{\text{D}} = 250\text{ mA}$		—		—	

#### DYNAMIC

Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
$P_{\text{L}}$	$f = 175\text{ MHz}$	$V_{\text{DS}} = 50\text{ V}$	$I_{\text{DQ}} = 250\text{ mA}$	150		—	W
$G_{\text{PS}}$	$f = 175\text{ MHz}$	$V_{\text{DS}} = 50\text{ V}$	$I_{\text{DQ}} = 250\text{ mA}$	12	13	—	dB
$\eta_{\text{D}}$	$f = 175\text{ MHz}$	$V_{\text{DS}} = 50\text{ V}$	$I_{\text{DQ}} = 250\text{ mA}$	50	55	—	%

**PACKAGE MECHANICAL DATA**

Ref.: Dwg. No. 12-0174  
UDCS No. 1011000 rev C



SGS-THOMSON MICROELECTRONICS		CONT'D			
	MINIMUM Inches/mm	MAXIMUM Inches/mm		MINIMUM Inches/mm	MAXIMUM Inches/mm
A	.220/5,59	.230/5,84			
B	.125/3,18				
C	.245/6,22	.255/6,48			
D	.720/18,28	.730/18,54			
E	.125/3,18				
F	.970/24,64	.980/24,89			
G	.495/12,57	.505/12,83			
H	.003/0,08	.007/0,18			
I	.090/2,29	.110/2,79			
J	.150/3,81	.175/4,45			
			K	.280/7,11	
			L	.980/24,89	1.050/26,67

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