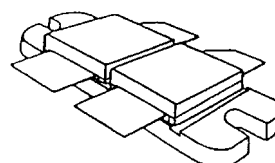


## RF & MICROWAVE TRANSISTORS HF/VHF/UHF N-CHANNEL MOSFETS

### 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
- $P_{OUT} = 300W$  MIN. WITH 12 dB GAIN



**2 x .437 x .450 2 LFL(M176)**  
epoxy sealed

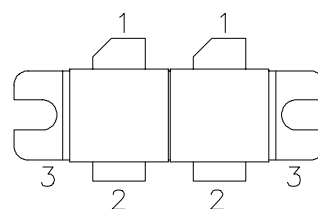
**ORDER CODE**  
TSD2922

**BRANDING**  
TSD2922

### DESCRIPTION

The TSD2922 is a gold metallized N-Channel MOS field-effect RF power transistor. The TSD2922 is intended for use in 50 V dc large signal applications up to 200 MHz.

### PIN CONNECTION



1. Drain                      3. Source  
2. Gate

### ABSOLUTE MAXIMUM RATINGS ( $T_{case} = 25^{\circ}C$ )

Symbol	Parameter	Value	Unit
$V_{(BR)DSS}$	Drain-Source Voltage	125	V
$V_{DGR}$	Drain-Gate Voltage	125	V
$V_{GS}$	Gate-Source Voltage	$\pm 30$	V
$I_D$	Drain Current	TBD	A
$P_{DISS}$	Power Dissipation	500	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	.35	$^{\circ}C/W$
---------------	----------------------------------	-----	---------------

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

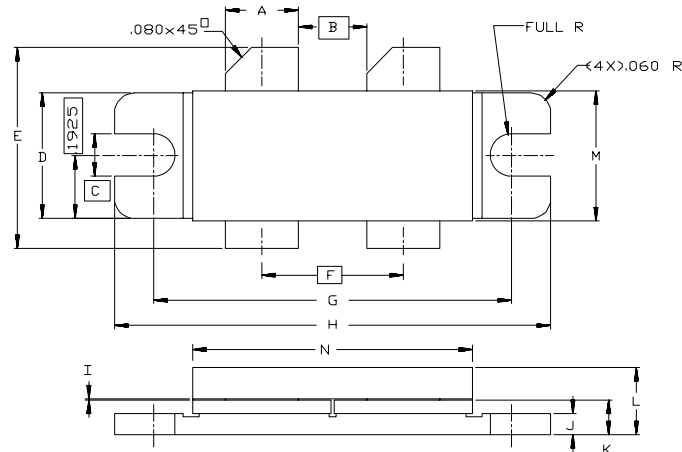
Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
$V_{(\text{BR})\text{DSS}}$	$V_{\text{GS}} = 0\text{V}$	$I_{\text{DS}} = 100\text{ mA}$	125	—	—	V
$I_{\text{DSS}}$	$V_{\text{GS}} = 0\text{V}$	$V_{\text{DS}} = 50\text{V}$	—	—	5.0	mA
$G_{\text{FS}}$	$V_{\text{DS}} = 10\text{V}$	$I_{\text{D}} = 5\text{A}$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

**DYNAMIC**

Symbol	Test Conditions				Value			Unit
					Min.	Typ.	Max.	
$P_{\text{L}}$	$f = 175\text{ MHz}$	$V_{\text{DS}} = 50\text{ V}$	$I_{\text{DQ}} = 500\text{ mA}$		300		—	W
$G_{\text{PS}}$	$f = 175\text{ MHz}$	$V_{\text{DS}} = 50\text{ V}$	$I_{\text{DQ}} = 500\text{ mA}$		12	13	—	dB
$\eta_{\text{D}}$	$f = 175\text{ MHz}$	$V_{\text{DS}} = 50\text{ V}$	$I_{\text{DQ}} = 500\text{ mA}$		50	60	—	%

## PACKAGE MECHANICAL DATA

Ref.: Dwg. No. 12-0176  
UDCS No. 1011001 rev B



SGS-THOMSON MICROELECTRONICS			CONT'D		
	MINIMUM Inches/mm	MAXIMUM Inches/mm		MINIMUM Inches/mm	MAXIMUM Inches/mm
A	.220/5,59	.230/5,84	K	.100/2,54	.115/2,92
B	.210/5,33		L		.230/5,84
C	.125/3,18		M	.395/10,03	.407/10,34
D	.380/9,65	.390/9,91	N	.850/21,59	.870/21,10
E	.580/14,73	.620/15,75			
F	.435/11,05				
G	1.090/27,69	1.105/28,07			
H	1.335/33,91	1.345/34,16			
I	.003/0,08	.007/0,18			
J	.060/1,52	.070/1,78			

Information furnished is believed to be accurate and reliable. However, SGS-THOMSON Microelectronics assumes no responsibility for the consequences of use of such information nor for any infringement of patents or other rights of third parties which may result from its use. No license is granted by implication or otherwise under any patent or patent rights of SGS-THOMSON Microelectronics. Specifications mentioned in this publication are subject to change without notice. This publication supersedes and replaces all information previously supplied. SGS-THOMSON Microelectronics products are not authorized for use as critical components in life support devices or systems without express written approval of SGS-THOMSON Microelectronics.

©1996 SGS-THOMSON Microelectronics - All Rights Reserved

SGS-THOMSON Microelectronics GROUP OF COMPANIES

Australia - Brazil - Canada - China - France - Germany - Hong Kong - Italy - Japan - Korea  
Malaysia - Malta - Morocco - The Netherlands - Singapore - Spain - Sweden - Switzerland  
Taiwan - Thailand - United Kingdom - U.S.A.