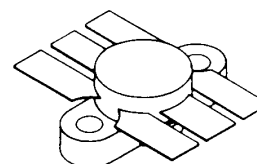


RF & MICROWAVE TRANSISTORS UHF MOBILE APPLICATIONS

- 470 MHz
- 12.5 VOLTS
- EFFICIENCY 50%
- COMMON EMITTER
- $P_{OUT} = 38 \text{ W MIN. WITH } 5.8 \text{ dB GAIN}$



.500 6LFL (M111)
EPOXY SEALED

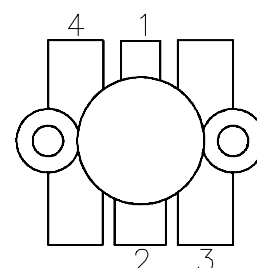
ORDER CODE
SD1488

BRANDING
SD1488

DESCRIPTION

The SD1488 is a 12.5 V Class C epitaxial silicon NPN planar transistor designed primarily for broad-band applications in the 450 - 512 MHz land mobile radio band. This device utilizes diffused emitter resistors to withstand infinite VSWR at rated operating conditions.

PIN CONNECTION



- | | |
|--------------|------------|
| 1. Collector | 3. Base |
| 2. Emitter | 4. Emitter |

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

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	36	V
V_{CEO}	Collector-Emitter Voltage	16	V
V_{EBO}	Emitter-Base Voltage	4.0	V
I_C	Device Current	8.0	A
P_{DISS}	Power Dissipation	117	W
T_J	Junction Temperature	+200	$^{\circ}\text{C}$
T_{STG}	Storage Temperature	- 65 to +150	$^{\circ}\text{C}$

THERMAL DATA

$R_{TH(j-c)}$	Junction-Case Thermal Resistance	1.5	$^{\circ}\text{C/W}$
---------------	----------------------------------	-----	----------------------

SD1488

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

STATIC

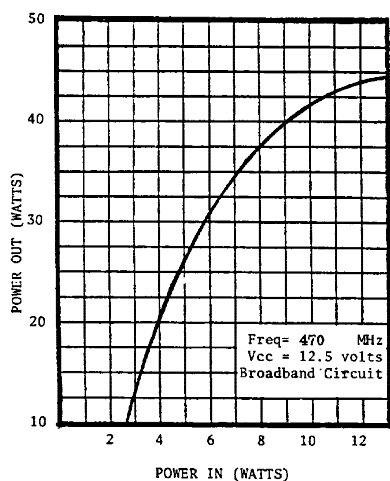
Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
BV_{CES}	$I_{\text{C}} = 15 \text{ mA}$	$V_{\text{BE}} = 0 \text{ V}$	36	—	—	V
BV_{CEO}	$I_{\text{C}} = 50 \text{ mA}$	$I_{\text{B}} = 0 \text{ mA}$	16	—	—	V
BV_{EBO}	$I_{\text{E}} = 5 \text{ mA}$	$I_{\text{C}} = 0 \text{ mA}$	4.0	—	—	V
I_{CES}	$V_{\text{CE}} = 12.5 \text{ V}$	$I_{\text{E}} = 0 \text{ mA}$	—	—	5	mA
h_{FE}	$V_{\text{CE}} = 5 \text{ V}$	$I_{\text{C}} = 1 \text{ A}$	20	—	300	—

DYNAMIC

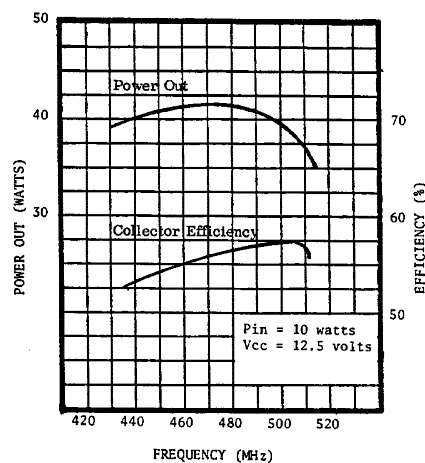
Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
P_{OUT}	$f = 470 \text{ MHz}$	$P_{\text{IN}} = 10.0 \text{ W}$	$V_{\text{CC}} = 12.5 \text{ V}$	38	—	—	W
G_{P}	$f = 470 \text{ MHz}$	$P_{\text{IN}} = 10.0 \text{ W}$	$V_{\text{CC}} = 12.5 \text{ V}$	5.8	—	—	dB
η_{C}	$f = 470 \text{ MHz}$	$P_{\text{OUT}} = 38 \text{ W}$	$V_{\text{CC}} = 12.5 \text{ V}$	50	—	—	%
C_{OB}	$f = 1 \text{ MHz}$	$V_{\text{CB}} = 12.5 \text{ V}$		—	95	—	pF

TYPICAL PERFORMANCE

POWER OUTPUT vs POWER INPUT

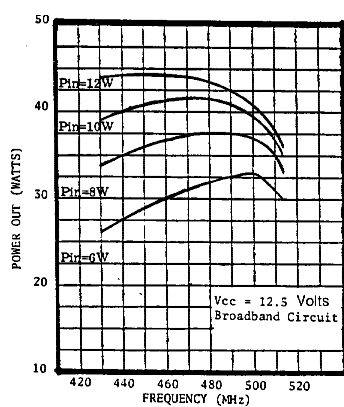


POWER OUTPUT & COLLECTOR EFFICIENCY vs FREQUENCY

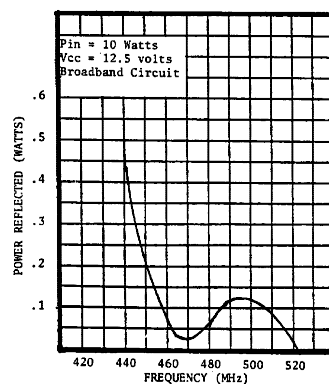


TYPICAL PERFORMANCE (cont'd)

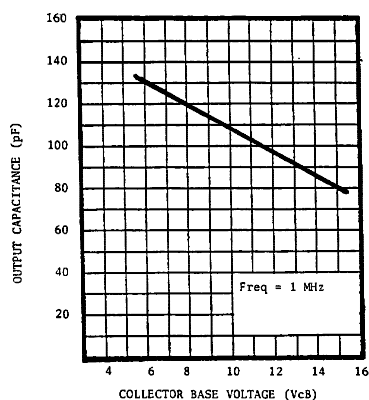
POWER OUTPUT vs FREQUENCY



POWER REFLECTED vs FREQUENCY

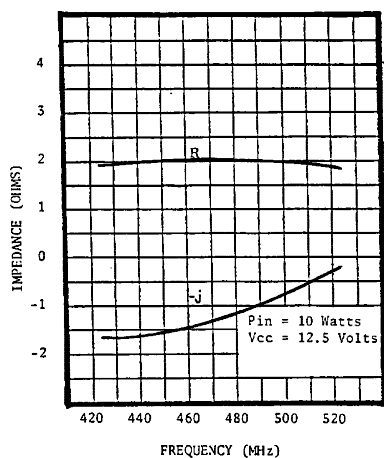


OUTPUT CAPACITANCE vs COLLECTOR BASE VOLTAGE

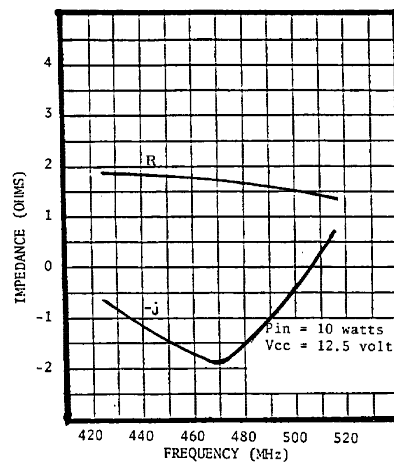


IMPEDANCE DATA

TYPICAL INPUT IMPEDANCE

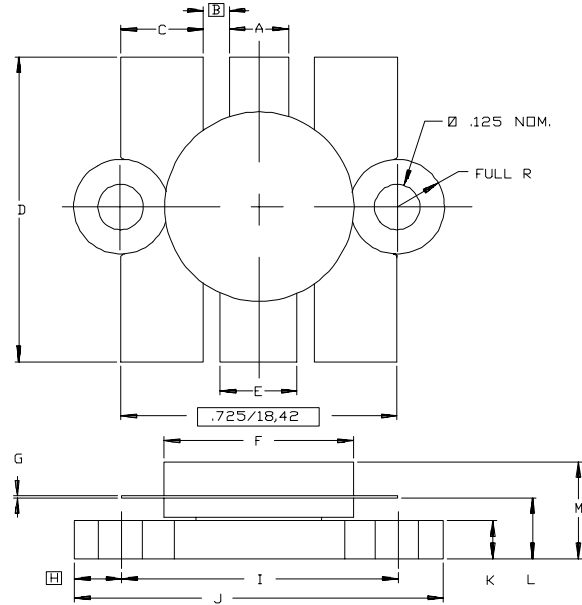


TYPICAL COLLECTOR LOAD IMPEDANCE



PACKAGE MECHANICAL DATA

Ref.: Dwg. No.12-0111



SGS-THOMSON MICROELECTRONICS			CONT'D		
	MINIMUM Inches/mm	MAXIMUM Inches/mm		MINIMUM Inches/mm	MAXIMUM Inches/mm
A	.150/3,43	.160/4,06	K	.095/2,41	.105/2,67
B	.045/1,14		L	.150/3,81	.170/4,32
C	.210/5,33	.220/5,59	M		.280/7,11
D	.835/21,21	.865/21,97			
E	.200/5,08	.210/5,33			
F	.490/12,45	.510/12,95			
G	.003/0,08	.007/0,18			
H	.125/3,18				
I	.720/18,29	.730/18,54			
J	.970/24,64	.980/24,89			

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 results 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.

© 1994 SGS-THOMSON Microelectronics - All Rights Reserved

SGS-THOMSON Microelectronics GROUP OF COMPANIES
Australia - Brazil - France - Germany - Hong Kong - Italy - Japan - Korea - Malaysia - Malta - Morocco - The Netherlands -
Singapore - Spain - Sweden - Switzerland - Taiwan - Thailand - United Kingdom - U.S.A