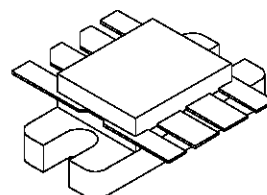


## RF & MICROWAVE TRANSISTORS VHF/UHF APPLICATIONS

- 400 MHz
- 28 VOLTS
- EFFICIENCY 60%
- COMMON EMITTER
- GOLD METALLIZATION
- $P_{OUT} = 125 \text{ W MIN. WITH } 7.0 \text{ dB GAIN}$



**.400 x .425 8LFL (M168)**  
epoxy sealed

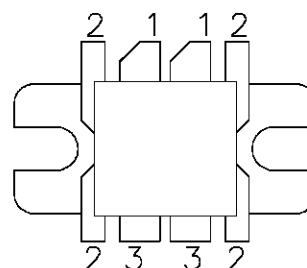
**ORDER CODE**  
SD1463

**BRANDING**  
0204-125

### DESCRIPTION

The SD1463 is a 28 V Class C gold metallized epitaxial silicon NPN planar transistor designed for UHF military and commercial equipment. The SD1463 is an internally matched, broadband device optimized for operation within the 225 - 400 MHz frequency range. This device utilizes diffused emitter resistors to achieve 10:1 VSWR load mismatch capability at rated operating conditions.

### PIN CONNECTION



1. Collector                      3. Base  
2. Emitter

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

Symbol	Parameter	Value	Unit
$V_{CBO}$	Collector-Base Voltage	60	V
$V_{CEO}$	Collector-Emitter Voltage	30	V
$V_{EBO}$	Emitter-Base Voltage	4.0	V
$I_C$	Device Current	15	A
$P_{DISS}$	Power Dissipation	270	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	0.65	$^{\circ}\text{C/W}$
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**ELECTRICAL SPECIFICATIONS** ( $T_{\text{case}} = 25^{\circ}\text{C}$ )**STATIC**

Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
$BV_{\text{CBO}}$	$I_{\text{C}} = 100 \text{ mA}$	$I_{\text{E}} = 0 \text{ mA}$	60	—	—	V
$BV_{\text{CES}}$	$I_{\text{C}} = 80 \text{ mA}$	$V_{\text{BE}} = 0 \text{ V}$	60	—	—	V
$BV_{\text{CEO}}$	$I_{\text{C}} = 50 \text{ mA}$	$I_{\text{B}} = 0 \text{ mA}$	30	—	—	V
$BV_{\text{EBO}}$	$I_{\text{E}} = 20 \text{ mA}$	$I_{\text{C}} = 0 \text{ mA}$	4.0	—	—	V
$I_{\text{CBO}}$	$V_{\text{CB}} = 30 \text{ V}$	$I_{\text{E}} = 0 \text{ mA}$	—	—	10	mA
$h_{\text{FE}}$	$V_{\text{CE}} = 5 \text{ V}$	$I_{\text{C}} = 1 \text{ A}$	20	—	200	—

**DYNAMIC**

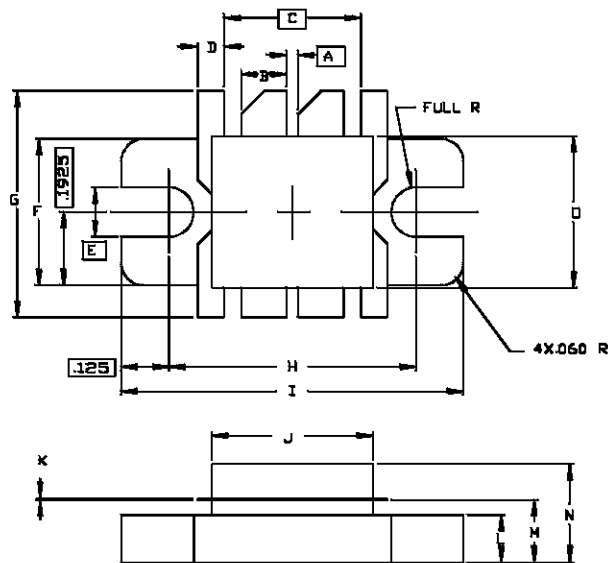
Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
$P_{\text{IN}}$	$f = 400 \text{ MHz}$	$P_{\text{OUT}} = 125 \text{ W}$	$V_{\text{CC}} = 28 \text{ V}$	—	—	25	W
$G_{\text{P}}$	$f = 400 \text{ MHz}$	$P_{\text{OUT}} = 125 \text{ W}$	$V_{\text{CC}} = 28 \text{ V}$	7.0	—	—	dB
$\eta_{\text{c}}$	$f = 400 \text{ MHz}$	$P_{\text{OUT}} = 125 \text{ W}$	$V_{\text{CC}} = 28 \text{ V}$	60	—	—	%

**IMPEDANCE DATA**

FREQ.	$Z_{\text{IN}} (\Omega)$	$Z_{\text{CL}} (\Omega)$
225 MHz	$0.5 + j 2.5$	$8.8 + j 3.5$
400 MHz	$1.5 + j 1.7$	$5.0 + j 0.0$

## PACKAGE MECHANICAL DATA

Ref.: Dwg. No.12-0168 rev. A  
UDCS Doc. No. 1010993



SGS-THOMSON MICROELECTRONICS			CONT'D		
	MINIMUM Inches/mm	MAXIMUM Inches/mm		MINIMUM Inches/mm	MAXIMUM Inches/mm
A	.030/0,76		K	.003/0,08	.007/0,18
B	.115/2,92	.125/3,18	L	.120/3,05	.130/3,30
C	.360/9,14		M	.159/4,04	.175/4,45
D	.065/1,65	.075/1,91	N		.280/7,11
E	.130/3,30		O	.395/10,03	.405/10,29
F	.380/9,65	.390/9,91			
G	.735/18,67	.765/19,43			
H	.645/16,38	.655/16,64			
I	.895/22,73	.905/22,99			
J	.420/10,67	.430/10,92			

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