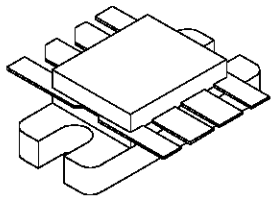
SGS-THOMSON MICROELECTRONICS

SD1463 (TCC0204-125)

RF & MICROWAVE TRANSISTORS VHF/UHF APPLICATIONS

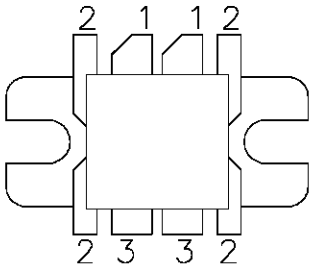
- 400 MHz
- 28 VOLTS
- EFFICIENCY 60%
- COMMON EMITTER
- GOLD METALLIZATION
- P_{OUT} = 125 W MIN. WITH 7.0 dB GAIN



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

ORDER CODE	BRANDING
SD1463	0204-125

PIN CONNECTION



1. Collector
2. Emitter
3. Base

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 utlizies diffused emitter resistors to achieve 10:1 VSWR load mismatch capability at rated operating conditions.

ABSOLUTE MAXIMUM RATINGS (T_{case} = 25°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	°C
T_{STG}	Storage Temperature	– 65 to +150	°C

THERMAL DATA

$R_{TH(j-c)}$	Junction-Case Thermal Resistance	0.65	°C/W

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

STATIC

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

DYNAMIC

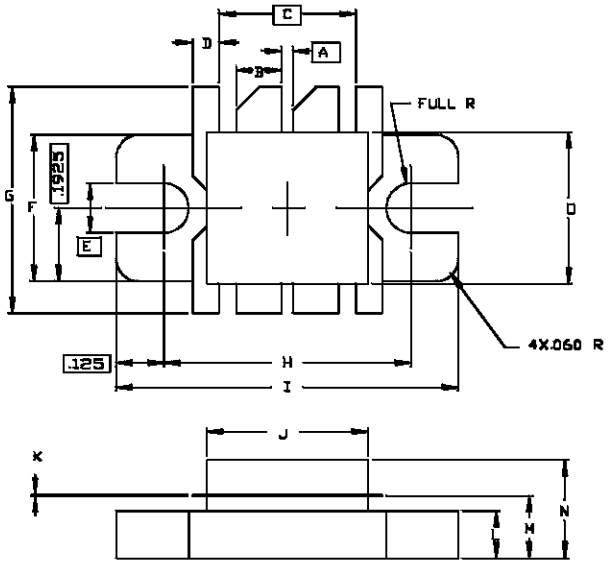
Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
P_{IN}	f = 400 MHz	P_{OUT} = 125 W	V_{CC} = 28 V	—	—	25	W
G_P	f = 400 MHz	P_{OUT} = 125 W	V_{CC} = 28 V	7.0	—	—	dB
ηc	f = 400 MHz	P_{OUT} = 125 W	V_{CC} = 28 V	60	—	—	%

IMPEDANCE DATA

FREQ.	Z_{IN} (Ω)	Z_{CL} (Ω)
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		
	MINIMUM Inches/mm	MAXIMUM Inches/mm
A	.030/0,76	
B	.115/2,92	.125/3,18
C	.360/9,14	
D	.065/1,65	.075/1,91
E	.130/3,30	
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

CONT'D		
	MINIMUM Inches/mm	MAXIMUM Inches/mm
K	.003/0,08	.007/0,18
L	.120/3,05	.130/3,30
M	.159/4,04	.175/4,45
N		.280/7,11
O	.395/10,03	.405/10,29