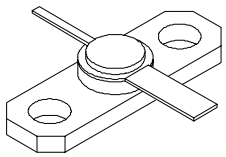
SGS-THOMSON MICROELECTRONICS

SD1855 (TCC20L25)

RF & MICROWAVE TRANSISTORS GENERAL PURPOSE LINEAR APPLICATIONS

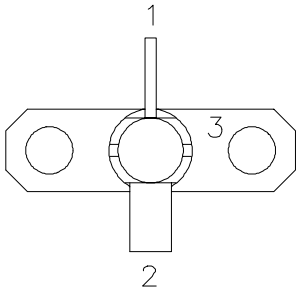
- 2.0 GHz
- 20 VOLTS
- CLASS A
- OVERLAY GEOMETRY
- GOLD METALLIZED DIE
- COMMON EMITTER CONFIGURATION
- P_{OUT} = 2.5W MIN. WITH 6.0 dB GAIN



.230 2LFL (M151)
hermetically sealed

ORDER CODE	BRANDING
SD1855	TCC20L25

PIN CONNECTION



1. Collector
2. Base
3. Emitter

DESCRIPTION

The SD1855 is a silicon NPN planar transistor designed for high gain linear performance at 2.0 GHz. This part uses gold metallized die and poly-silicon site ballasting to achieve high reliability and ruggedness. The SD1855 can be used for applications sucha as telecommunications, radar, ECM, space and other commercial and military systems.

ABSOLUTE MAXIMUM RATINGS (T_{case} = 25°C)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	40	V
V_{CES}	Collector-Emitter Voltage	25	V
V_{EBO}	Emitter-Base Voltage	3.5	V
I_C	Device Current	0.5	A
P_{DISS}	Power Dissipation	20.6	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	8.5	°C/W

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

STATIC

Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
BV_{CBO}	I_C = 2mA	I_E = 0mA	40	—	—	V
BV_{CEO}	I_C = 5mA	I_B = 0mA	25	—	—	V
BV_{EBO}	I_E = 2mA	I_C = 0mA	3.5	—	—	V
h_{FE}	V_{CE} = 5V	I_C = 400mA	15	—	150	—

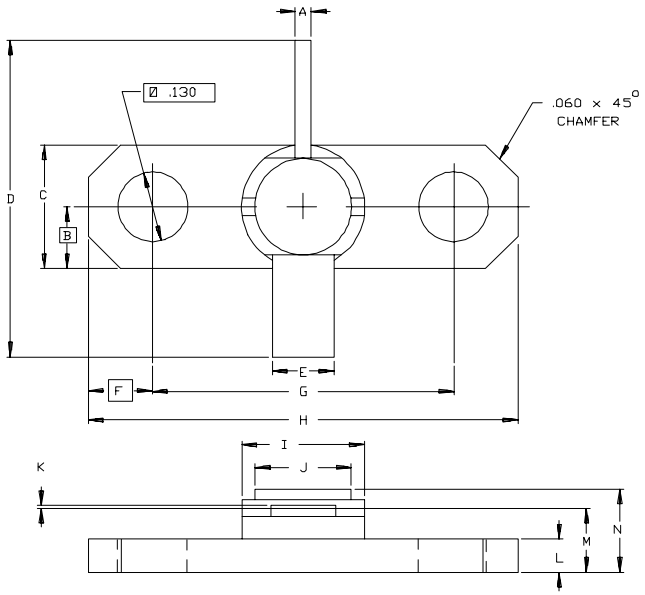
DYNAMIC

Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
P_{OUT}*	f = 2.0 GHz	V_{CE} = 20 V	I_{CQ} = 440 mA	2.5	—	—	W
G_P*	f = 2.0 GHz	V_{CE} = 20 V	I_{CQ} = 440 mA	6.0	—	—	dB

Note: * 1dB Compression

PACKAGE MECHANICAL DATA

Ref.: Dwg. No.12-0151



SGS-THOMSON MICROELECTRONICS			CONT'D		
	MINIMUM Inches/mm	MAXIMUM Inches/mm		MINIMUM Inches/mm	MAXIMUM Inches/mm
A	.025/0,64	.035/0,89	K	.003/0,08	.007/0,18
B	.115/2,92 NOM.		L	.055/1,40	.067/1,70
C	.225/5,72	.235/5,97	M	.120/3,18	.140/3,56
D	.710/18,03	.750/19,05	N		.170/4,32
E	.110/2,79	.120/3,05			
F	.120/3,05 NOM.				
G	.555/14,10	.565/14,35			
H	.795/20,19	.805/20,45			
I	.222/5,64	.236/5,99			
J	.165/4,19	.185/4,70			