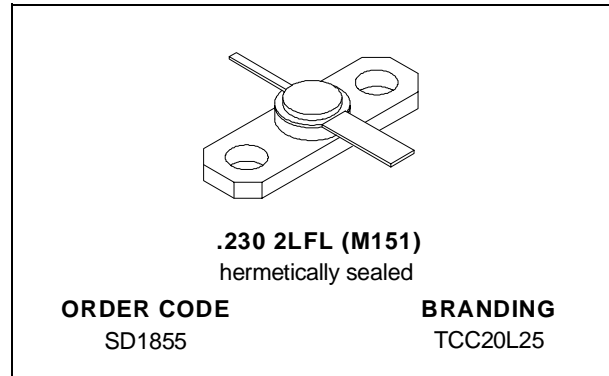


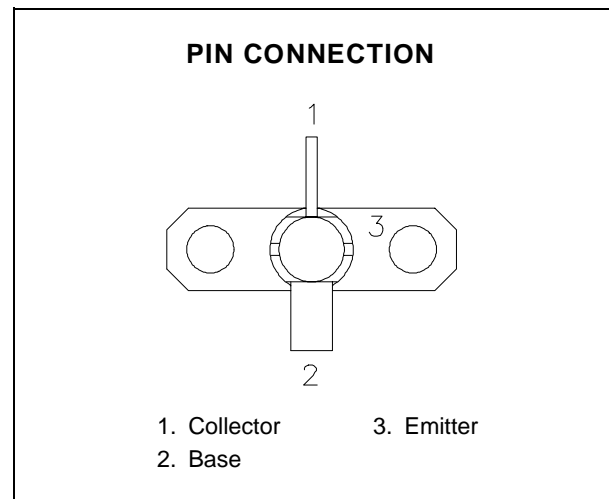
## RF & MICROWAVE TRANSISTORS GENERAL PURPOSE LINEAR APPLICATIONS

- 2.0 GHz
- 20 VOLTS
- CLASS A
- OVERLAY GEOMETRY
- GOLD METALLIZED DIE
- COMMON EMITTER CONFIGURATION
- P<sub>OUT</sub> = 2.5W MIN. WITH 6.0 dB GAIN



### 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 such as telecommunications, radar, ECM, space and other commercial and military systems.



### ABSOLUTE MAXIMUM RATINGS (T<sub>case</sub> = 25°C)

Symbol	Parameter	Value	Unit
V <sub>CB0</sub>	Collector-Base Voltage	40	V
V <sub>CES</sub>	Collector-Emitter Voltage	25	V
V <sub>EBO</sub>	Emitter-Base Voltage	3.5	V
I <sub>C</sub>	Device Current	0.5	A
P <sub>DISS</sub>	Power Dissipation	20.6	W
T <sub>J</sub>	Junction Temperature	+200	°C
T <sub>STG</sub>	Storage Temperature	- 65 to +150	°C

### THERMAL DATA

R <sub>TH(j-c)</sub>	Junction-Case Thermal Resistance	8.5	°C/W
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## SD1855 (TCC20L25)

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

#### 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	—

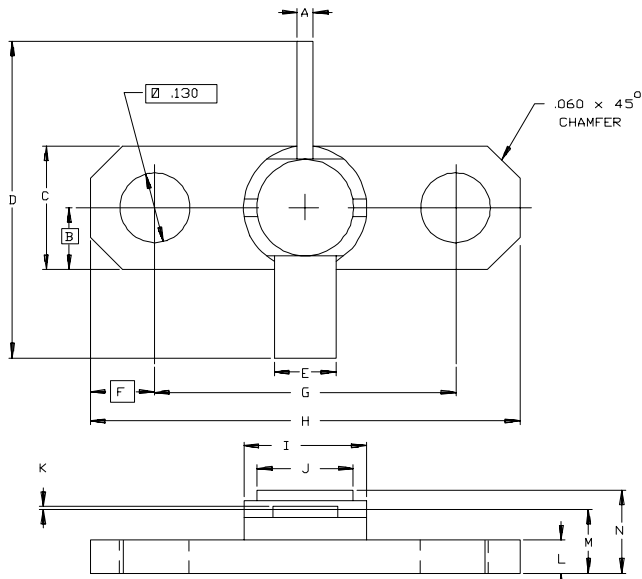
#### DYNAMIC

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	NDM.	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	NDM.			
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			

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