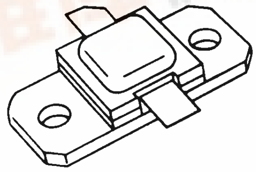
SGS-THOMSON
MICROELECTRONICS

AM80814-025

RF & MICROWAVE TRANSISTORS L-BAND RADAR APPLICATIONS

PRELIMINARY DATA

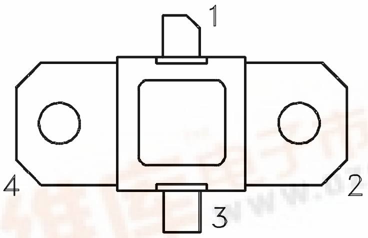
- REFRACTORY/GOLD METALLIZATION
- EMITTER SITE BALLASTED
- LOW THERMAL RESISTANCE
- INPUT/OUTPUT MATCHING
- OVERLAY GEOMETRY
- METAL/CERAMIC HERMETIC PACKAGE
- P_{OUT} = 25 W MIN. WITH 7.0 dB GAIN



.400 x .400 2LFL (S036)
hermetically sealed

ORDER CODE	BRANDING
AM80814-025	80814-25

PIN CONNECTION



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

DESCRIPTION

AM80814-025 is a high power silicon Class C transistor designed for ultra-broadband L-Band radar applications.

This device is capable of operation over a broad range of pulse widths and duty cycles. Low RF thermal resistance and computerized automatic wire bonding techniques ensure high reliability and product consistency.

AM80814-025 is supplied in the industry-standard AMPAC™ hermetic Metal/Ceramic package incorporating Input/Output impedance matching.

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

Symbol	Parameter	Value	Unit
P_{DISS}	Power Dissipation*($T_C \leq 75$°C)	75	W
I_C	Device Current*	3.5	A
V_{CC}	Collector-Supply Voltage*	38	V
T_J	Junction Temperature (Pulsed RF Operation)	250	°C
T_{STG}	Storage Temperature	– 65 to +200	°C

THERMAL DATA

$R_{TH(j-c)}$	Junction-Case Thermal Resistance*	2.3	°C/W

*Applies only to rated RF amplifier operation

ELECTRICAL SPECIFICATIONS (T$_{case}$ = 25°C)

STATIC

Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
BV_{CBO}	I_C = 10mA	I_E = 0mA	55	—	—	V
BV_{EBO}	I_E = 1mA	I_C = 0mA	3.5	—	—	V
BV_{CER}	IC = 20mA	R_{BE} = 10Ω	55	—	—	V
I_{CES}	V_{BE} = 0V	V_{CE} = 28V	—	—	5	mA
h_{FE}	V_{CE} = 5V	I_C = 1A	15	—	150	—

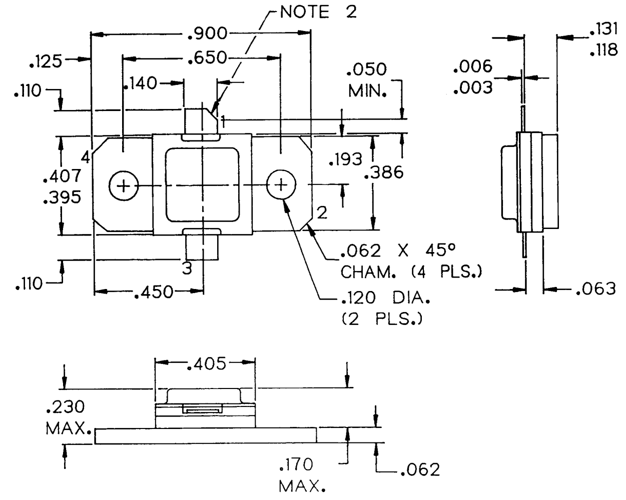
DYNAMIC

Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
P_{OUT}	f = 850 — 1400MHz	P_{IN} = 5.0W	V_{CC} = 35V	25	—	—	W
η_c	f = 850 — 1400MHz	P_{IN} = 5.0W	V_{CC} = 35V	38	—	—	%
G_P	f = 850 — 1400MHz	P_{IN} = 5.0W	V_{CC} = 35V	7.0	—	—	dB

Note: Pulse Width = 120µS
Duty Cycle = 4%

PACKAGE MECHANICAL DATA

Ref.: Dwg. No.: J133102E



NOTES:
1. ALL TOLERANCE ± .010 EXCEPT WHERE NOTED; DIMENSIONS IN INCHES.
2. COLLECTOR LEAD CHAMFER 45° NOM. X .040 NOM.

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