

DESCRIPTION

The SD1474 is a Class C 28 V common emitter device optimized for pulsed applications in the 400-500MHz frequency range. Refractory gold metallization and emitter ballasting ensure long-term reliability as well as device ruggedness under severe load mismatch conditions.

SD1474 is characterized for both CW and pulsed operation and is provided in an industry-standard .400" Square hermetic package.

IMPORTANT: For the most current data, consult MICROSEMI's website: <http://www.microsemi.com>

KEY FEATURES

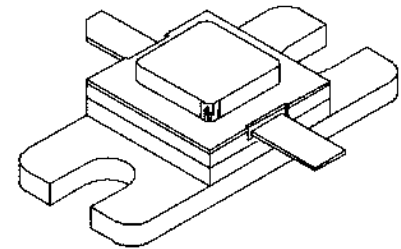
- 425 MHz
- 28 Volts
- Common Emitter
- Gold Metallization
- Emitter Ballasted
- $P_{OUT} = 48 \text{ W Min.}$
- $G_P = 6.8 \text{ dB Gain}$

APPLICATIONS/BENEFITS

- UHF Pulsed Applications

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

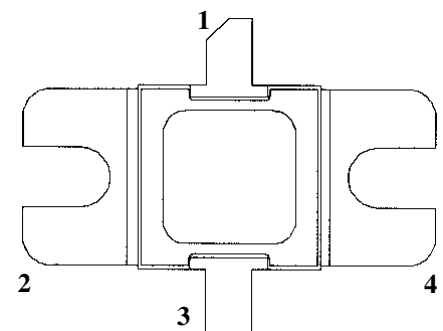
Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	60	V
V_{CES}	Collector-Emitter Voltage	60	V
V_{EBO}	Emitter-Base Voltage	4.0	V
I_C	Device Current	5	A
P_{DISS}	Power Dissipation	87.5	W
T_J	Junction Temperature	+200	°C
T_{STG}	Storage Temperature	-65 to +150	°C



.400 SQ. 2LFL (M138)
hermetically sealed

THERMAL DATA

$R_{TH(j-c)}$	Junction-Case Thermal Resistance	2.0	°C/W
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PIN CONNECTION


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

STATIC ELECTRICAL SPECIFICATIONS (T_{CASE} = 25°C)

Symbol	Test Conditions	SD1474			Units
		Min.	Typ.	Max.	
BV_{CBO}	I_C = 50 mA I_E = 0 mA	60	—	—	V
BV_{CES}	I_C = 50 mA V_{BE} = 0 V	60	—	—	V
BV_{CEO}	I_C = 50 mA I_B = 0 mA	32	—	—	V
BV_{EBO}	I_E = 5 mA I_C = 0 mA	4.0	—	—	V
I_{CBO}	V_{CB} = 30 V I_E = 0 mA	—	—	5	mA
h_{FE}	V_{CE} = 5 V I_C = 1 A	20	—	100	—

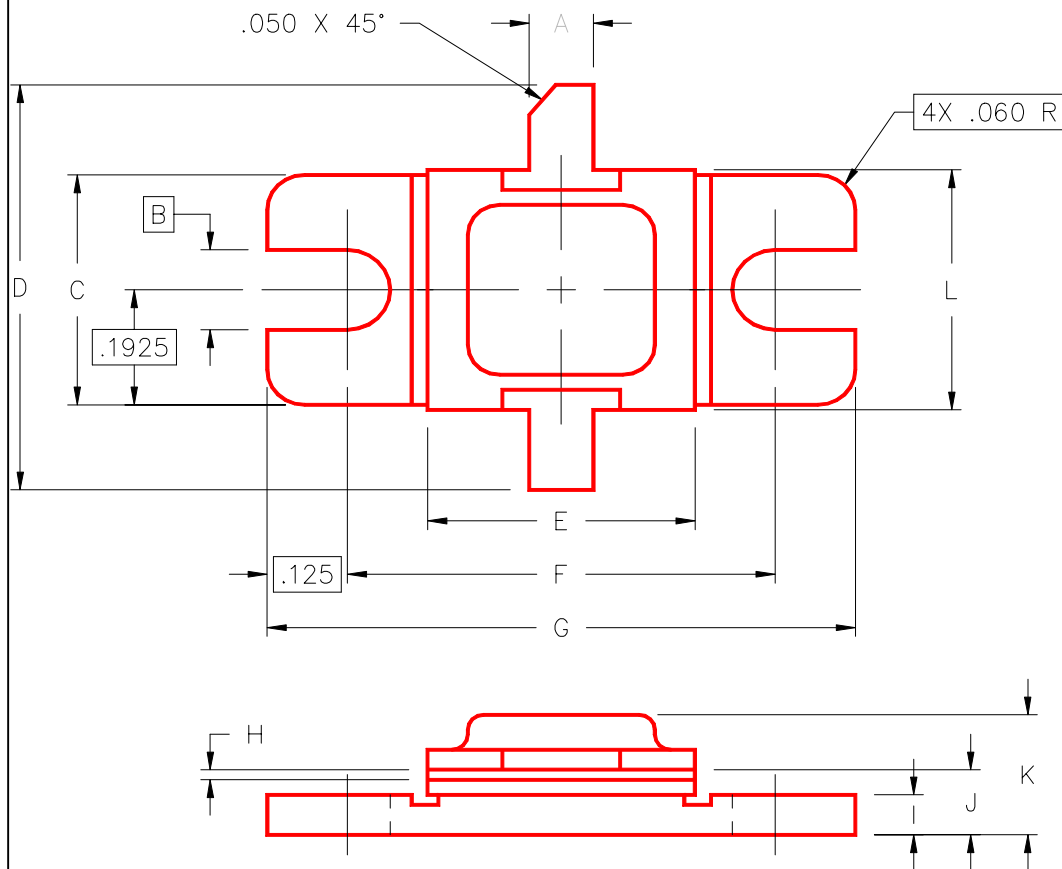
DYNAMIC ELECTRICAL SPECIFICATIONS (T_{CASE} = 25°C)

Symbol	Test Conditions	SD1474			Units
		Min.	Typ.	Max.	
P_{OUT}	f = 425 MHz P_{IN} = 10 W V_{CE} = 28 V	48	—	—	W
G_p	f = 425 MHz P_{IN} = 10 W V_{CE} = 28 V	6.8	—	—	dB
η_C	f = 425 MHz P_{IN} = 10 W V_{CE} = 28 V	50	—	—	%
C_{OB}	f = 1 MHz V_{CB} = 28 V	—	42	—	pF

IMPEDANCE DATA

Freq.	Z _{IN} (Ω)	Z _{CL} (Ω)
420 MHz	4.2 + j 3.8	3.2 - j 0.0
430 MHz	4.2 + j 3.1	3.9 - j 0.6
440 MHz	5.1 + j 2.8	4.4 - j 1.1
450 MHz	5.0 + j 2.5	4.9 - j 1.5

PACKAGE STYLE M138



	MINIMUM INCHES/MM	MAXIMUM INCHES/MM		MINIMUM INCHES/MM	MAXIMUM INCHES/MM
A	.095/2,41	.105/2,67	I	.055/1,40	.065/1,65
B	.125/3,18		J	.105/2,67	.125/3,18
C	.380/9,65	.390/9,91	K		.230/5,84
D	.790/20,07		L	.392/9,96	.402/10,21
E	.392/9,96	.402/10,21			
F	.645/16,38	.655/16,64			
G	.895/22,73	.905/22,99			
H	.002/0,05	.006/0,15			



SD1474

RF & MICROWAVE TRANSISTORS

PRODUCT PREVIEW

WWW.MICROSEMI.COM

NOTES