

DESCRIPTION

The MS2176 is a gold metallized silicon NPN pulse power transistor. The MS2176 is designed for applications requiring high peak power and low duty cycles within the frequency range of 400 – 500 MHz.

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

KEY FEATURES

- 350 Watts @ 10 μ Sec Pulse Width, 10% Duty Cycle
- 300 Watts @ 250 μ Sec Pulse Width 10% Duty Cycle
- 9.5 dB Min. Gain
- Refractory Gold Metallization
- Emitter Ballasting And Low Thermal Resistance For Reliability and Ruggedness
- Infinite VSWR Capability At Specified Operating Conditions

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

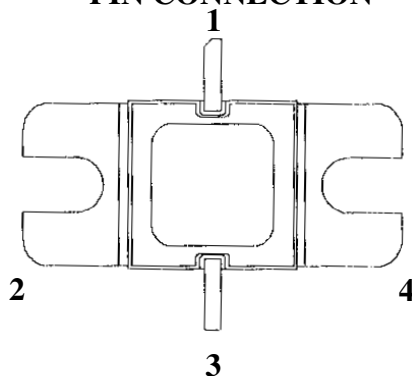
Symbol	Parameter	Value	Unit
V _{CBO}	Collector-Base Voltage	65	V
V _{CES}	Collector-Emitter Voltage	65	V
V _{EBO}	Emitter-Base Voltage	3.5	V
I _C	Device Current	21.6	A
P _{DISS}	Power Dissipation	875	W
T _J	Junction Temperature	+200	°C
T _{STG}	Storage Temperature	-65 to +150	°C

THERMAL DATA

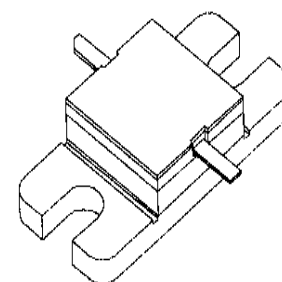
R _{TH(j-c)}	Junction-Case Thermal Resistance	0.2	°C/W
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APPLICATIONS/BENEFITS

- UHF Pulsed Applications

PIN CONNECTION

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



.400 X .400 2LFL (M106)
hermetically sealed

**MS2176****RF & MICROWAVE TRANSISTORS****PRODUCT PREVIEW****STATIC ELECTRICAL SPECIFICATIONS (T_{CASE} = 25°C)**

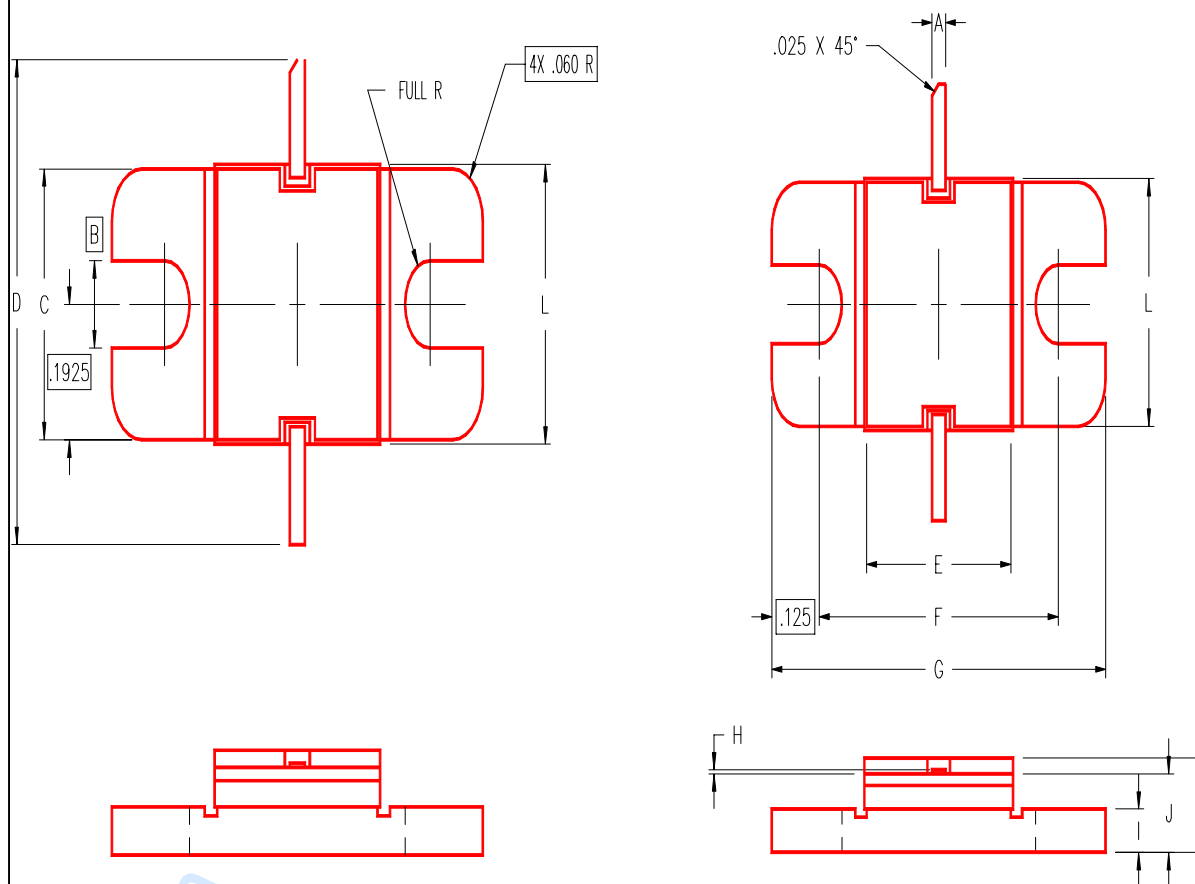
Symbol	Test Conditions	MS2176			Units
		Min.	Typ.	Max.	
BV_{CBO}	I_C = 50 mA I_E = 0 mA	65	—	—	V
BV_{CES}	I_C = 50 mA V_{BE} = 0 V	65	—	—	V
BV_{CEO}	I_C = 50 mA I_B = 0 mA	28	—	—	V
BV_{EBO}	I_E = 10 mA I_C = 0 mA	3.5	—	—	V
I_{CES}	V_{CB} = 30 V I_E = 0 mA	—	—	7.5	mA
h_{FE}	V_{CE} = 5 V I_C = 5 A	10	—	100	—

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

Symbol	Test Conditions	MS2176			Units
		Min.	Typ.	Max.	
P_{OUT}	f = 425 MHz P_{IN} = 33.5 W V_{CE} = 40 V	300	—	—	W
G_p	f = 425 MHz P_{IN} = 300 W V_{CE} = 40 V	9.5	—	—	dB
η_C	f = 425 MHz P_{IN} = 25 W V_{CE} = 40 V	55	—	—	%

Note: Pulse Width = 250μSec, Duty Cycle = 10%

PACKAGE STYLE M106



	MINIMUM INCHES/MM	MAXIMUM INCHES/MM		MINIMUM INCHES/MM	MAXIMUM INCHES/MM
A	.045/1,14	.055/1,40	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		.170/4,32
D	.710/18,03		L	.392/9,96	.402/10,29
E	.392/9,96	.402/10,29			
F	.645/16,38	.655/16,64			
G	.895/22,73	.905/22,99			
H	.002/0,05	.006/0,15			



MS2176

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PRODUCT PREVIEW