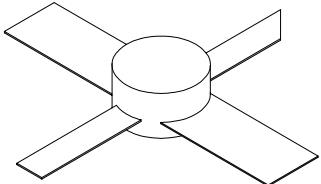




# 1090MP

90 Watts, 50 Volts, Class C  
Avionics 1025 - 1150 MHz

<b>GENERAL DESCRIPTION</b> The 1090MP is a COMMON BASE bipolar transistor. It is designed for pulsed systems in the frequency band 1025-1150 MHz. The device has gold thin-film metallization for proven highest MTTF. The transistor includes input prematch for broadband capability. Low thermal resistance package reduces junction temperature, extends life.	<b>CASE OUTLINE</b> <b>55FW-1</b> 
<b>ABSOLUTE MAXIMUM RATINGS</b> Maximum Power Dissipation @ 25°C <sup>2</sup> 250 Watts Peak <b>Maximum Voltage and Current</b> BVces Collector to Emitter Voltage 60 Volts BVebo Emitter to Base Voltage 4.0 Volts Ic Collector Current 6.0 Amps Peak <b>Maximum Temperatures</b> Storage Temperature - 65 to +150 °C Operating Junction Temperature + 200°C	

### ELECTRICAL CHARACTERISTICS @ 25°C

SYMBOL	CHARACTERISTICS	TEST CONDITIONS	MIN	TYP	MAX	UNITS
P <sub>OUT</sub>	Power Out	F = 1025-1150 MHz	90	98		W
P <sub>IN</sub>	Power Input	V <sub>cc</sub> = 50 Volts			14	W
P <sub>G</sub>	Power Gain	PW = 10 μsec, DF = 1%	8.0	8.5		dB
η <sub>c</sub>	Efficiency		35	38		%
VSWR	Load Mismatch Tolerance	F = 1090 MHz			10:1	

### FUNCTIONAL CHARACTERISTICS @ 25°C

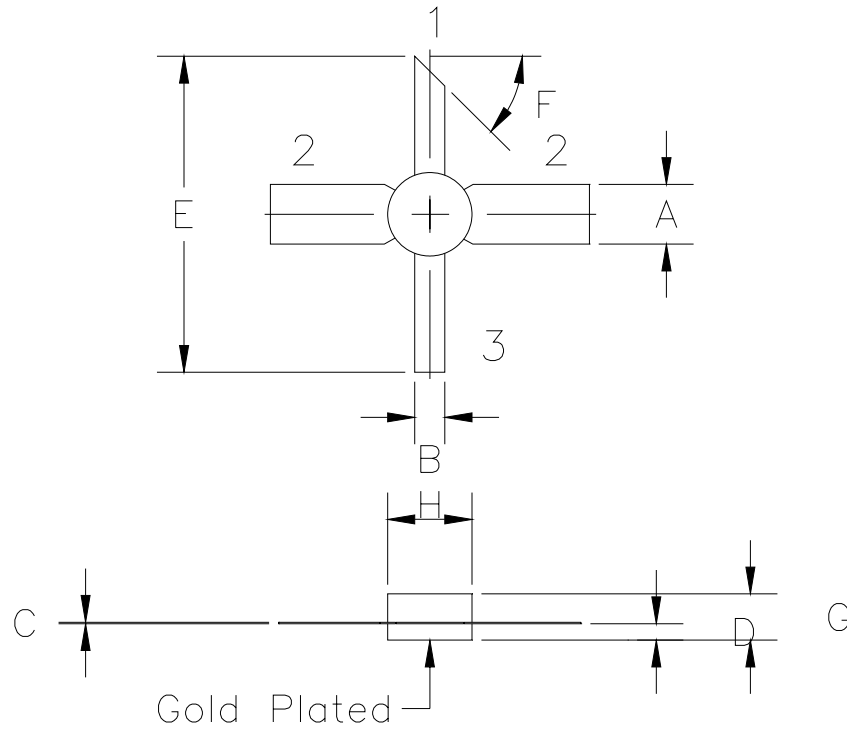
BVebo	Emitter to Base Breakdown	I <sub>e</sub> = 1 mA	3.5			V
BVces	Collector to Emitter Breakdown	I <sub>c</sub> = 10mA	65			V
Hfe	DC Current Gain	V <sub>ce</sub> = 5V, I <sub>c</sub> = 500 mA	15		120	
Cob	Output Capacitance	V <sub>cb</sub> = 50 V, f = 1 MHz			16	pF
θ <sub>jc</sub> <sup>2</sup>	Thermal Resistance				0.6	°C/W

Note 1: At rated output power and pulse conditions  
2: At rated pulse conditions

Initial Issue August 1996

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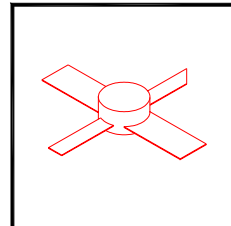
# 1090MP



STYLE 1:  
 PIN1 = COLLECTOR  
 2 = BASE (2X)  
 3 = EMITTER

STYLE 2:  
 PIN1 = COLLECTOR  
 2 = EMITTER (2X)  
 3 = BASE

DIM	MILLIMETER	±TOL	INCHES	±TOL
A	5.08	.13	.200	.005
B	7.11 DIA	.13	.280 DIA	.005
C	0.13	.02	.005	.001
D	1.40	.13	.055	.005
E	26.92	.64	1.060	.025
F	45°	5°	45°	5°
G	3.94	REF	.155	REF
H	2.54	.13	.100	.005



**GHz TECHNOLOGY**  
 RF - MICROWAVE SILICON POWER TRANSISTORS

DWG NO.

55FW