

# 1075 MP

75 Watt, 50 Volts, Class C  
Avionics 1025 - 1150 MHz

## GENERAL DESCRIPTION

The 1075 MP 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.

## ABSOLUTE MAXIMUM RATINGS

Maximum Power Dissipation @ 25°C<sup>2</sup> 250 Watts Pk

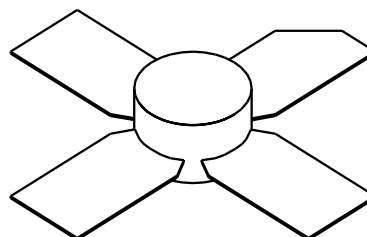
### Maximum Voltage and Current

BVces Collector to Emitter Voltage 65 Volts  
BVebo Emitter to Base Voltage 3.5 Volts  
Ic Collector Current 6.5 Amps Pk

### Maximum Temperatures

Storage Temperature - 65 to + 150°C  
Operating Junction Temperature + 200°C

## CASE OUTLINE 55FU, STYLE 1



## ELECTRICAL CHARACTERISTICS @ 25 °C

SYMBOL	CHARACTERISTICS	TEST CONDITIONS	MIN	TYP	MAX	UNITS
P <sub>out</sub>	Power Out	F= 1025-1150 MHz	75			Watts
P <sub>in</sub>	Power Input	V <sub>cc</sub> = 50 Volts			13	Watts
P <sub>g</sub>	Power Gain	PW = 10 μsec	7.5	9.0		dB
η <sub>c</sub>	Efficiency	DF = 1%		40		%
VSWR	Load Mismatch Tolerance	F = 1090 MHz			20:1	

BVebo	Emitter to Base Breakdown	I <sub>e</sub> = 5 mA	3.5			Volts
BVces	Collector to Emitter Breakdown	I <sub>c</sub> = 15mA	65			Volts
H <sub>fe</sub>	DC Current Gain to Emitter	V <sub>ce</sub> = 5V, I <sub>c</sub> = 100 mA	20			
C <sub>ob</sub>	Output Capacitance	V <sub>cb</sub> = 50 V, f = 1 MHz		45	50	pF
θ <sub>jc</sub> <sup>2</sup>	Thermal Resistance	Pulsed			0.6	°C/W

Note 1: At rated output power and pulse conditions

2: At rated pulse conditions

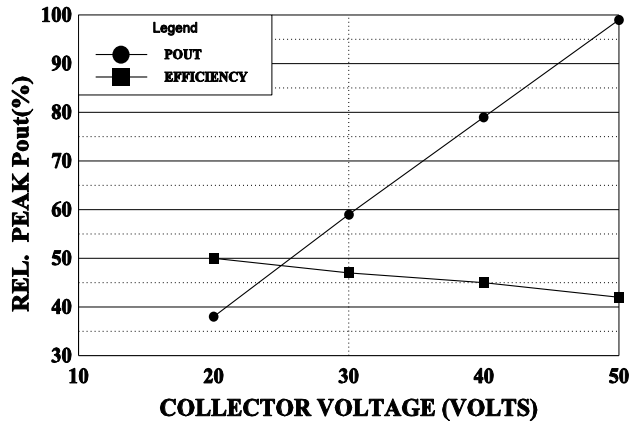
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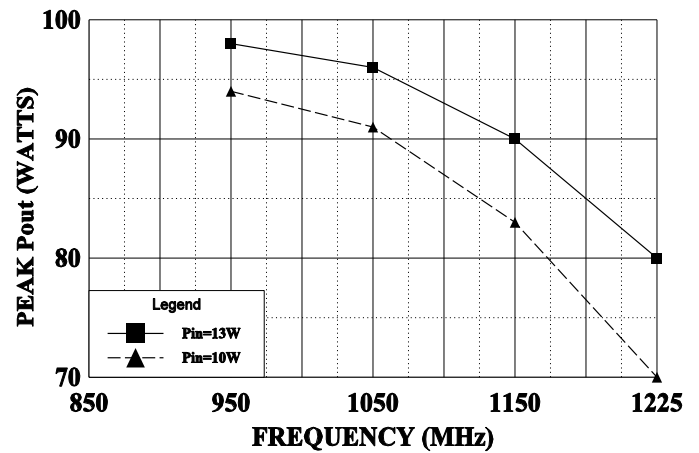
**POUT & COL. EFF. VS COL. VOLTAGE**

Freq.=1215MHz, Pulse Width=10us, Tc=25C



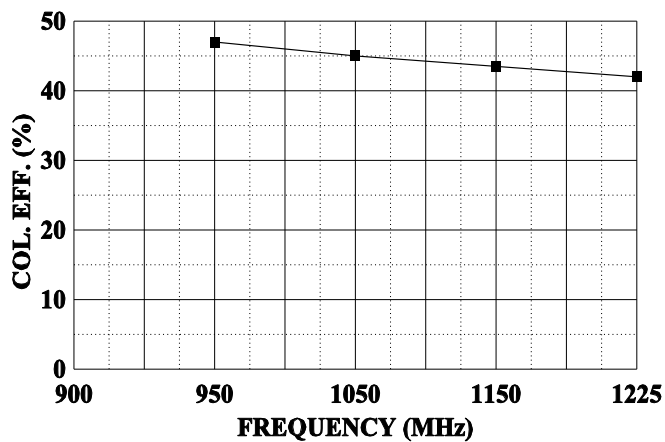
**NARROWBAND PEAK POUT VS FREQUENCY**

Vcc=50V, Pulse Width=10usec, Tc=25 C



**NARROWBAND COLLECTOR EFF VS FREQ**

Vcc=50V, Pin=13W, Tc=25 C



**TYPICAL Pout**

Vcc=50V, Pulse Width=10usec, Tc=25C

