

**The RF Line**  
**UHF Power Transistor**

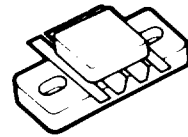
The TPM4100 is an internally matched transistor in a push-pull package specially designed for multi-octave bandwidth high power applications. Its internal matching and package configuration lead to high input and output impedances.

Multi-cell die design and ultra thin beryllium oxide header allow optimum heat dissipation and operating efficiency. Long term reliability and ruggedness are enhanced by use of diffused silicon ballast resistors and gold metallization.

- 100–400 MHz
- 100 W —  $P_{out}$
- 28 V —  $V_{CC}$
- Push-Pull Package
- Gold Metallization for Reliability

**TPM4100**

**100 W — 400 MHz**  
**UHF POWER TRANSISTOR**



**MRP 7**  
**CASE 827-01, STYLE 1**

**MAXIMUM RATINGS**

Rating	Symbol	Value	Unit
Collector-Emitter Voltage	$V_{CEO}$	35	Vdc
Collector-Base Voltage	$V_{CBO}$	60	Vdc
Emitter-Base Voltage	$V_{EBO}$	4	Vdc
Collector Current — Continuous	$I_C$	10	Adc
Total Device Dissipation (at $T_C = 25^\circ\text{C}$ Derate above 25 C)	$P_D$	210 0.11	Watts $W/^\circ\text{C}$
Operating Junction Temperature	$T_J$	200	$^\circ\text{C}$
Storage Temperature Range	$T_{stg}$	-65 to +200	$^\circ\text{C}$

**THERMAL CHARACTERISTICS**

Characteristic	Symbol	Max	Unit
Thermal Resistance, Junction to Case ( $T_{case} = 60^\circ\text{C}$ )	$R_{\theta JC}$	0.85	$^\circ\text{C/W}$

**ELECTRICAL CHARACTERISTICS**

Characteristic	Symbol	Min	Typ	Max	Unit
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**OFF CHARACTERISTICS**

Collector-Emitter Breakdown Voltage ( $I_C = 50\text{ mA}$ , $I_B = 0$ )	$V_{(BR)CEO}$	35	—	—	Vdc
Emitter-Base Breakdown Voltage ( $I_E = 20\text{ mA}$ , $I_C = 0$ )	$V_{(BR)EBO}$	4	—	—	Vdc
Collector-Emitter Breakdown Voltage ( $I_C = 50\text{ mA}$ , $R_{BE} = 10\ \Omega$ )	$V_{(BR)CER}$	60	—	—	Vdc

**ON CHARACTERISTICS**

DC Current Gain ( $I_C = 50\text{ mA}$ , $V_{CE} = 5\text{ V}$ )	$h_{FE}$	20	—	150	—
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**DYNAMIC CHARACTERISTICS**

Output Capacitance ( $V_{CB} = 28\text{ V}$ , $I_E = 0$ , $f = 1\text{ MHz}$ )	$C_{ob}$	—	60	85	pF
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**FUNCTIONAL TESTS**

Common-Emitter Amplifier Power Gain ( $V_{CE} = 28\text{ V}$ , $P_{out} = 100\text{ W}$ , $f = 400\text{ MHz}$ )	$G_{PE}$	7.5	—	—	dB
Collector Efficiency ( $V_{CE} = 28\text{ V}$ , $P_{out} = 100\text{ W}$ , $f = 400\text{ MHz}$ )	$\eta_c$	50	—	—	%