

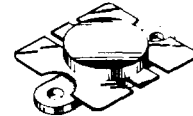
JO3037

The RF Line
NPN Silicon
UHF Power Transistor

... designed primarily for 12.5 Volt wideband, large-signal amplifier applications in industrial and commercial FM equipment operating to 512 MHz.

- Specified 12.5 Volt, 470 MHz Characteristics:
 - Output Power — 37 Watts
 - Gain — 4.9 dB, Min
 - Efficiency — 60%, Typ
- Internally Matched for Broadband Operation
- Tested for Load Mismatch Stress
- Gold Metallization for Improved Reliability
- Diffused Ballast Resistors

37 W — 512 MHz
RF POWER
TRANSISTOR
NPN SILICON



.500 J ZERO
CASE 316A-01, STYLE 1

2

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Collector-Emitter Voltage	V _{CEO}	16	Vdc
Collector-Base Voltage	V _{CBO}	36	Vdc
Emitter-Base Voltage	V _{EBO}	4	Vdc
Collector Current — Continuous	I _C	5	Adc
Total Device Dissipation (at T _C = 25°C Derate above 25°C)	P _D	83 0.48	Watts W/°C
Operating Junction Temperature	T _J	200	°C
Storage Temperature Range	T _{stg}	- 65 to + 150	°C

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Thermal Resistance, Junction to Case	R _{θJC}	2.1	°C/W

ELECTRICAL CHARACTERISTICS

Characteristic	Symbol	Min	Typ	Max	Unit
----------------	--------	-----	-----	-----	------

OFF CHARACTERISTICS

Collector-Emitter Breakdown Voltage (I _C = 50 mA, I _B = 0)	V _{(BR)CEO}	16	—	—	Vdc
Collector-Base Breakdown Voltage (I _C = 50 mA, I _E = 0)	V _{(BR)CBO}	36	—	—	Vdc
Emitter-Base Breakdown Voltage (I _E = 5 mA, I _C = 0)	V _{(BR)EBO}	4	—	—	Vdc
Collector Cutoff Current (V _{CE} = 15 V, V _{BE} = 0)	I _{CES}	—	10	—	mA

ON CHARACTERISTICS

DC Current Gain (I _C = 1 A, V _{CE} = 5 V)	h _{FE}	10	—	200	—
---	-----------------	----	---	-----	---

FUNCTIONAL TESTS

Common-Emitter Amplifier Power Gain (V _{CE} = 12.5 V, P _{in} = 12 W, f = 470 MHz)	G _{PE}	4.9	—	—	dB
Collector Efficiency (V _{CE} = 12.5 V, P _{out} = 37 W, f = 470 MHz)	η _c	—	60	—	%
Load Mismatch (V _{CE} = 15.5 V, P _{in} = 12 W, f = 470 MHz, Load VSWR = 20:1, All Phase Angles)	ψ	No Degradation in Output Power			