TPV387

Advance Information

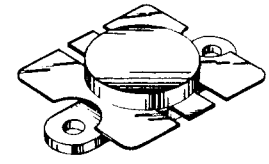
The RF Line

VHF Linear Power Transistor

28 V — 170–230 MHz VHF LINEAR POWER TRANSISTOR

. . . designed specifically for band III TV transposers and transmitter amplifiers. The TPV387 is internally matched and uses gold metallized die with diffused emitter ballast resistors to enhance reliability, ruggedness and linearity.

- Band III (170–230 MHz)
- 24 W — P_{ref} @ −50 dB IMD
- 28 V — V_{CC}
- High Gain — 13 dB Min, Class A



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

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Collector-Emitter Voltage	V_{CEO}	35	Vdc
Collector-Base Voltage	V_{CBO}	65	Vdc
Emitter-Base Voltage	V_{EBO}	4	Vdc
Collector Current — Continuous	I_C	16	Adc
Operating Junction Temperature	T_J	200	°C
Storage Temperature Range	T_{stg}	−65 to +200	°C

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Thermal Resistance, Junction to Case (T_C = 70°C)	$R_{\theta JC}$	1	°C/W

ELECTRICAL CHARACTERISTICS

Characteristic	Symbol	Min	Typ	Max	Unit
OFF CHARACTERISTICS					
Collector-Emitter Breakdown Voltage (I_C = 100 mA, I_B = 0)	$V_{(BR)CEO}$	35	—	—	Vdc
Collector-Base Breakdown Voltage (I_C = 50 mA, I_E = 0)	$V_{(BR)CBO}$	65	—	—	Vdc
Emitter-Base Breakdown Voltage (I_E = 20 mA, I_C = 0)	$V_{(BR)EBO}$	4	—	—	Vdc
Collector-Emitter Breakdown Voltage (I_C = 100 mA, R_{BE} = 10 Ω)	$V_{(BR)CER}$	60	—	—	Vdc
ON CHARACTERISTICS					
DC Current Gain (I_C = 1 A, V_{CE} = 5 V)	h_{FE}	20	—	100	—
DYNAMIC CHARACTERISTICS					
Output Capacitance (V_{CB} = 30 V, I_E = 0, f = 1 MHz)	C_{ob}	—	130	150	pF

ELECTRICAL CHARACTERISTICS

Characteristic	Symbol	Min	Typ	Max	Unit
FUNCTIONAL TESTS					
Common-Emitter Amplifier Power Gain (V_{CC} = 28 V, P_{out} = 24 W, f = 225 MHz, I_E = 3.5 A)	G_{PE}	13	—	—	dB
Load Mismatch (V_{CC} = 28 V, P_{out} = 24 W, I_E = 3.5 A, f = 225 MHz, Load VSWR = ∞:1, All Phase Angles)	ψ	No Degradation in Output Power			
Intermodulation Distortion, 3 Tone (f = 225 MHz, V_{CE} = 28 V, I_E = 3.5 A, P_{ref} = 24 W, Vision Carrier = −8 dB, Sound Carrier = −7 dB, Sideband Signal = −16 dB, Specification TV05001)	IMD_1	—	—	−50	dB
Output Power, 1 dB Compression Point (V_{CE} = 28 V, f = 225 MHz, I_Q = 200 mA)	$P_{o1\,dB}$	90	—	—	W