HG Semiconductors

HG RF POWER TRANSISTOR

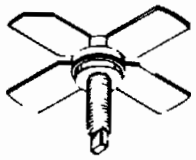
TP5002

ROHS Compliance,Silicon NPN POWER TRANSISTOR

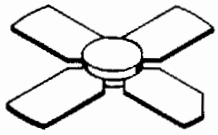
The TP5002/S are NPN gold metallized transistors using diffused ballast resistors for reliability and ruggedness. They are specifically designed as low power drivers, having high gain and can be operated in Class A, B or C.

- 380–512 MHz
- 1.5 W — P_{out}
- 24 V — V_{CC}
- High Gain — 13 dB Min, Class A @ 470 MHz

1.5 W — 380 to 512 MHz
UHF LINEAR
POWER TRANSISTORS
NPN SILICON



CASE 244C-01, STYLE 1
(.280 SOE)
TP5002



CASE 249A-01, STYLE 1
(.280 SOE S)
TP5002S

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	45	Vdc
Emitter-Base Voltage	V_{EBO}	3.5	Vdc
Total Device Dissipation @ T_C = 25°C Derate above 25°C	P_D	7 0.045	Watts W/°C
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)	$R_{\theta JC}$	21	°C/W

ELECTRICAL CHARACTERISTICS (T_C = 25°C unless otherwise noted)

Characteristic	Symbol	Min	Typ	Max	Unit
OFF CHARACTERISTICS					
Collector-Base Breakdown Voltage (I_C = 2 mA, I_E = 0)	$V_{(BR)CBO}$	45	—	—	Vdc
Emitter-Base Breakdown Voltage (I_E = 2.0 mA, I_C = 0)	$V_{(BR)EBO}$	4.0	—	—	Vdc
Collector Cutoff Current (V_{CB} = 24 V, I_E = 0)	I_{CBO}	—	—	0.5	mAdc
ON CHARACTERISTICS					
DC Current Gain (I_C = 100 mA, V_{CE} = 5 V)	h_{FE}	15	—	120	—
DYNAMIC CHARACTERISTICS					
Output Capacitance (V_{CB} = 28 V, I_E = 0, f = 1 MHz)	C_{ob}	—	—	4.5	pF
FUNCTIONAL TESTS					
Common-Emitter Amplifier Power Gain (V_{CE} = 23 V, P_{out} = 1.5 W, f = 470 MHz, I_C = 200 mA)	G_{PE}	13	—	—	dB
Saturated Output Power (V_{CE} = 23 V, f = 470 MHz, I_C = 200 mA)	P_{sat}	—	2.2	—	W

Note : Above parameters , ratings , limits and conditions are subject to change.