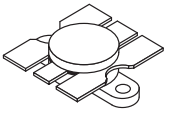
HG Semiconductors

HG RF POWER TRANSISTOR
2N6439
ROHS Compliance,Silicon NPN POWER TRANSISTOR

. . . designed primarily for wideband large–signal output amplifier stages in the 225 to 400 MHz frequency range.

- Guaranteed Performance in 225 to 400 MHz Broadband Amplifier @ 28 Vdc
  Output Power = 60 Watts over 225 to 400 MHz Band
  Minimum Gain = 7.8 dB @ 400 MHz
- Built–In Matching Network for Broadband Operation Using Double Match Technique
- 100% Tested for Load Mismatch at all Phase Angles with 30:1 VSWR
- Gold Metallization System for High Reliability Applications

60 W, 225 to 400 MHz
CONTROLLED "Q"
BROADBAND RF POWER
TRANSISTOR
NPN SILICON



CASE 316–01, STYLE 1

MAXIMUM RATINGS*

Rating	Symbol	Value	Unit
Collector–Emitter Voltage	V_{CEO}	33	Vdc
Collector–Base Voltage	V_{CBO}	60	Vdc
Emitter–Base Voltage	V_{EBO}	4.0	Vdc
Total Device Dissipation @ T_C = 25°C (1) Derate above 25°C	P_D	146 0.83	Watts W/°C
Storage Temperature Range	T_{stg}	–65 to +200	°C

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Thermal Resistance, Junction to Case	$R_{\theta JC}$	1.2	°C/W

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

Characteristic	Symbol	Min	Typ	Max	Unit
OFF CHARACTERISTICS					
Collector–Emitter Breakdown Voltage (I_C = 50 mAdc, I_B = 0)	$V_{(BR)CEO}$	33	—	—	Vdc
Collector–Emitter Breakdown Voltage (I_C = 50 mAdc, V_{BE} = 0)	$V_{(BR)CES}$	60	—	—	Vdc
Emitter–Base Breakdown Voltage (I_E = 5.0 mAdc, I_C = 0)	$V_{(BR)EBO}$	4.0	—	—	Vdc
Collector Cutoff Current (V_{CB} = 30 Vdc, I_E = 0)	I_{CBO}	—	—	2.0	mAdc

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

Characteristic	Symbol	Min	Typ	Max	Unit
ON CHARACTERISTICS					
DC Current Gain (I_C = 1.0 Adc, V_{CE} = 5.0 Vdc)	h_{FE}	10	—	100	—
DYNAMIC CHARACTERISTICS					
Output Capacitance (V_{CB} = 28 Vdc, I_E = 0, f = 1.0 MHz)	C_{ob}	—	67	75	pF
BROADBAND FUNCTIONAL TESTS (Figure 6)					
Common–Emitter Amplifier Power Gain (V_{CC} = 28 Vdc, P_{out} = 60 W, f = 225–400 MHz)	G_{PE}	7.8	8.5	—	dB
Electrical Ruggedness (P_{out} = 60 W, V_{CC} = 28 Vdc, f = 400 MHz, VSWR 30:1 all phase angles)	ψ	No Degradation in Output Power			—
NARROW BAND FUNCTIONAL TESTS (Figure 1)					
Common–Emitter Amplifier Power Gain (V_{CC} = 28 Vdc, P_{out} = 60 W, f = 400 MHz)	G_{PE}	7.8	10	—	dB
Collector Efficiency (V_{CC} = 28 Vdc, P_{out} = 60 W, f = 400 MHz)	η	55	—	—	%

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