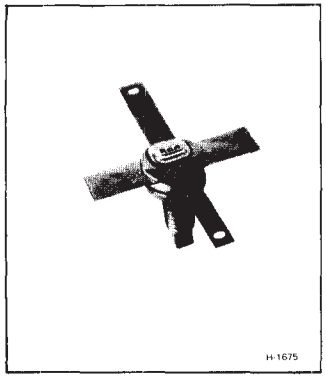
HG Semiconductors

HG RF POWER TRANSISTOR

2N5918

ROHS Compliance,Silicon NPN POWER TRANSISTOR



10-W, 400-MHz High-Gain Silicon N-P-N Emitter-Ballasted Overlay Transistor

For VHF/UHF Communications Equipment

Features

- **10 W output at 400 MHz (8 dB min. gain)**
- **Emitter-ballasting resistors**
- **Broadband performance (225—400 MHz)**
- **Low-inductance, ceramic-metal hermetic package**
- **All electrodes isolated from stud**
- **Radial leads for stripline circuits**

MAXIMUM RATINGS, *Absolute-Maximum Values.*

* COLLECTOR-TO-EMITTER VOLTAGE: With base open	V_{CEO}	30	V
* COLLECTOR-TO-BASE VOLTAGE	V_{CBO}	60	V
* EMITTER-TO-BASE VOLTAGE	V_{EBO}	4	V
* CONTINUOUS COLLECTOR CURRENT	I_C	0.75	A
* TRANSISTOR DISSIPATION	P_T		
At case temperatures up to 75°C		10	W
At case temperatures above 75°C		Derate linearly at 0.08 W/°C	
* TEMPERATURE RANGE: Storage & Operating (Junction)		-65 to +200	°C
* CASE TEMPERATURE (During soldering): For 10 s max.		230	°C

*In accordance with JEDEC registration data format JS-6 RDF-3/JS-9 RDF-7.

HG type 2N5918* is an epitaxial silicon n-p-n planar transistor employing "overlay" emitter-electrode construction. This device features emitter-ballasting resistors which improve ruggedness and overdrive capability, and a hermetic ceramic-metal package with terminals isolated from the mounting stud. The terminals are rugged, low-inductance, radial leads suitable for microstrip as well as lumped-constant circuits.

The 2N5918 is intended for use in large-signal, high-power, broadband and narrow-band amplifiers in vhf/uhf communications equipment.

* Formerly RCA Dev. Type No. TA7367.

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

ELECTRICAL CHARACTERISTICS, Case Temperature (T_C) = 25°C

STATIC

	CHARACTERISTIC	SYMBOL	TEST CONDITIONS					LIMITS		UNITS
			DC Collector Voltage	DC Base Voltage	DC Current mA					
			V_{CE}	V_{BE}	I_E	I_B	I_C	MIN.	MAX.	
*	Collector-to-Emitter Cutoff Current: Base-emitter junction shorted	I_{CES}	30	0				–	5	mA
*	Collector-to-Emitter Breakdown Voltage:	$V_{(BR)CES}$		0			100[a]	60	–	V
	With base open	$V_{(BR)CEO}$					100[a]	30	–	V
*	Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$			1		0	4	–	V
	Thermal Resistance: (Junction-t o-Case)	θ_{J-C}						–	12.5	°C/W

[a] Pulsed through a 25-mH inductor; duty factor =50%

DYNAMIC

	CHARACTERISTIC	SYMBOL	TEST CONDITIONS				LIMITS		UNITS
			DC Collector Supply (V_{CC})–V	Output Power (P_{OE})–W	Input Power (P_{IE})–W	Frequency (f)–MHz	MIN.	MAX.	
*	Power Output (See Fig. 10)	P_{OE}	28		1.59	400	10	–	W
*	Power Gain	G_{PE}	28	10		400	8	–	dB
*	Collector Efficiency	η_C	28	10		400	60	–	%
*	Collector-to-Base Output Capacitance	C_{obo}	30(V_{CB})			1	–	13	pF

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