



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_{CE0}	30	V
* COLLECTOR-TO-BASE VOLTAGE	V_{CB0}	60	V
* EMITTER-TO-BASE VOLTAGE	V_{EB0}	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

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.

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

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			MIN.	MAX.	
		V _{CE}	V _{BE}	I _E	I _B	I _C			
* 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	—	
* Emitter-to-Base Breakdown Voltage	V _{(BR)EBO}			1		0	4	—	V
Thermal Resistance: (Junction-to-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

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