

SSM SOLID STATE MICROWAVE

SD1430

THOMSON-CSF COMPONENTS CORPORATION

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VHF COMMUNICATIONS TRANSISTOR

DESCRIPTION

SSM device type SD1430 is a 12.5 volt epitaxial silicon NPN planar transistor designed primarily for VHF communications. This device utilizes improved metalization systems to achieve extreme ruggedness under severe operating conditions.

FEATURES:

- Designed for VHF military & commercial equipment
- 10 Watts (min.) with greater than 5.2 dB gain @ 6.5 V
- Withstands severe mismatch under operating conditions
- Intended for A.M. avionics applications using the series modulator approach

ABSOLUTE MAX. RATING

V _{CBO}	: Collector-Base Voltage	36.0 V
V _{CEO}	: Collector-Emitter Voltage	16.0 V
V _{EBO}	: Emitter-Base Voltage	4.0 V
I _C	: Collector Current (max.)	7.0 A
PT.	: Total Device Dissipation @ 25°C	87.0 W
T _j	: Junction Temperature	200°C
T _s	: Storage Temperature	-65°C to +200°C

ELECTRICAL CHARACTERISTICS

Characteristics	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Collector-Emitter Breakdown Voltage*	BV _{CEO}	I _C = 50 mA, I _b = 0,	16.0	—	—	V _{dc}
Collector-Emitter Breakdown Voltage*	BV _{CES}	I _C = 20 mA, V _{be} = 0,	36.0	—	—	V _{dc}
Emitter-Base Breakdown Voltage	BV _{EBO}	I _e = 5 mA, I _C = 0,	4.0	—	—	V _{dc}
Collector Cut-Off Current	I _{CBO}	V _{cb} = 15 V, I _e = 0	—	—	5.0	mA
DC Current Gain	h _{FE}	V _{ce} = 5 V, I _C = 1.0 A	5	—	—	—

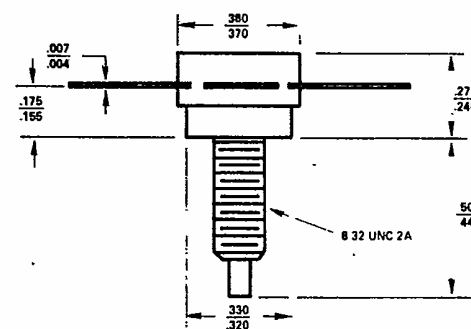
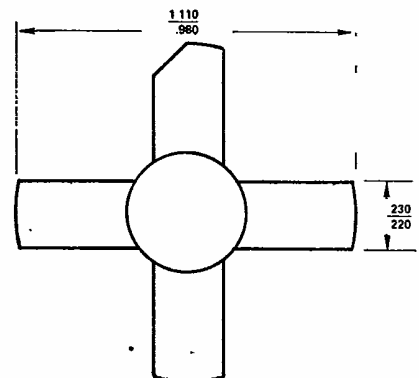
*Pulsed through 25 MH Inductor

RF CHARACTERISTICS: SMALL SIGNAL

Output Capacitance — Fo = 1.0 MHz	C _{ob}	V _{cb} = 12.5 V, I _C = 0	—	—	100.0	pF
Input Capacitance — Fo = 1.0 MHz	C _{ib}	V _{eb} = 0.5 V, I _C = 0	—	—	360.0	pF

RF CHARACTERISTICS: LARGE SIGNAL

Amplifier Power Out	P _O	136 MHz/6.5 V	10.0	—	—	Watts
Amplifier Power Gain	P _g		5.2	—	—	dB
Amplifier Power Out	P _O	136 MHz/12.5 V	40.0	—	—	Watts
Amplifier Power Gain	P _g		7.5	—	—	dB



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