

SSM**SOLID STATE MICROWAVE****SD1451-1**

THOMSON-CSF COMPONENTS CORPORATION

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FM COMMUNICATIONS TRANSISTOR**DESCRIPTION**

The SD1451-1 is a 12.5 volt epitaxial silicon NPN planar transistor designed primarily for FM communications. This device utilizes diffused emitter ballasting resistors to achieve extreme ruggedness under severe operating conditions.

FEATURES

- 10 dB gain (min.) at 50 MHz and 55 Watts
- Emitter ballasting
- Withstands severe mismatch
- Low inductance stripline package

ABSOLUTE MAX. RATING

V_{CBO}	: Collector-Base Voltage	36.0 V
V_{CEO}	: Collector-Emitter Voltage	18.0 V
V_{EBO}	: Emitter-Base Voltage	4.0 V
I_C	: Collector Current (max.)	10.0 A
PT.	: Total Device Dissipation @ 25°C	175. W
ϕ_{jc}	: Thermal Resistance	1° C/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}	$I_c = 100 \text{ mA}$	18.0	—	—	V_{dc}
Collector-Emitter Breakdown Voltage*	BV_{CES}	$I_c = 100 \text{ mA}$	36.0	—	—	V_{dc}
Emitter-Base Breakdown Voltage	BV_{EBO}	$I_e = 10 \text{ mA}$	4.0	—	—	V_{dc}
Collector Cut Off Current	I_{CES}	$V_{ce} = 15.0 \text{ V}$	—	—	10.0	mA
DC Current Gain	h_{FE}	$V_{ce} = 5.0 \text{ V}, I_c = 5 \text{ A}$	20.0	75.0	—	—

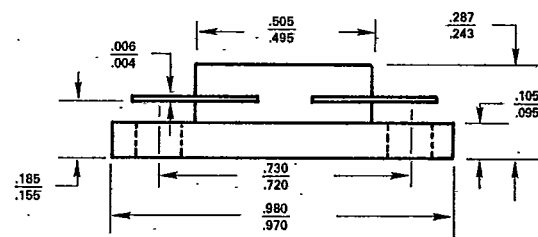
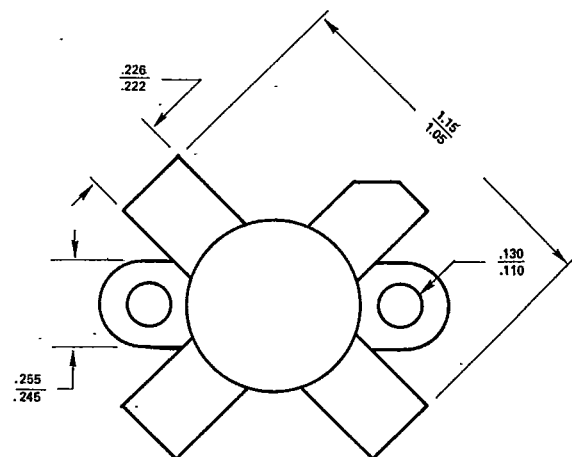
*Pulsed through 25 MH Inductor

RF CHARACTERISTICS: SMALL SIGNAL

Output Capacitance	C_{ob}	$V_{cb} = 12.5 \text{ V}$	—	200.0	—	pF
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RF CHARACTERISTICS: LARGE SIGNAL

Amplifier power out	P_o	12.5 V/50 MHz	55.0	—	—	Watts
Amplifier power gain	P_g		10.0	11.0	—	dB

**.500 4LFL**

SD --- 14511-X



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