



# SOLID STATE MICROWAVE

1522-2

THOMSON-CSF COMPONENTS CORPORATION

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## MICROWAVE POWER TRANSISTOR IFF, DME, TACAN

### DESCRIPTION

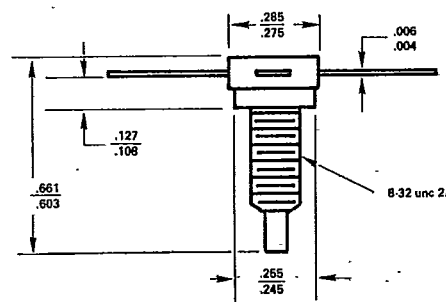
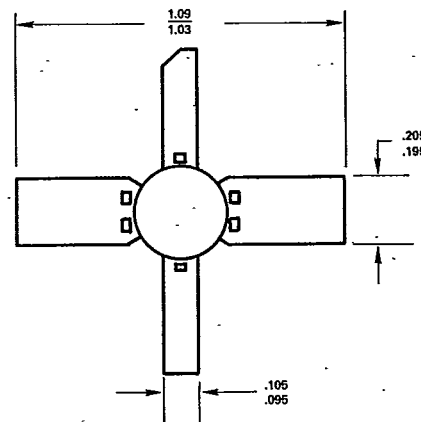
The SSM SD1522-2 is a gold metalized, silicon NPN power transistor. The SD1522-2 is designed for applications requiring peak power and low duty cycles such as IFF, DME, TACAN. The SD1522-2 is packaged in the .280 input matched stripline package resulting in improved broadband performance and a low thermal resistance.

### FEATURES

- Designed for pulse power IFF, DME, TACAN
- 1.25 Watts (min.) IFF 1030 – 1090 MHz
- 1.0 Watts (min.) DME 1025 – 1150 MHz
- 0.75 Watts (min.) TACAN 960 – 1215 MHz
- Greater than 9.0 dB gain
- Refractory gold metalization
- Emitter ballasting and low thermal resistance for reliability and ruggedness
- Infinite load – VSWR capability at specified operating conditions
- Input matched, common base configuration

### ABSOLUTE MAX. RATING

$V_{CES}$	: Collector to Emitter Voltage	45.0 V
$V_{CBO}$	: Collector to Base Voltage	45.0 V
$V_{EBO}$	: Emitter to Base Voltage	3.5 V
$I_c$	: Peak Collector Current (max.)	0.5 A
$\phi_{jc}$	: Thermal Resistance	
$T_j$	: Junction Temperature	200°C
$T_s$	: Storage Temperature	-65°C to +200°C



.280 4LS

### ELECTRICAL CHARACTERISTICS

Characteristics	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Collector-Emitter Breakdown Voltage	$BV_{CES}$	$I_c = 25 \text{ mA}$	45.0	—	—	$V_{dc}$
Collector-Base Breakdown Voltage	$BV_{CBO}$	$I_c = 10 \text{ mA}$	45.0	—	—	$V_{dc}$
Emitter-Base Breakdown Voltage	$BV_{EBO}$	$I_b = 10 \text{ mA}$	3.5	—	—	$V_{dc}$
Collector Cut Off Current	$I_{CES}$	$V_{ce} = 28 \text{ V}$	—	—	0.5	mA

### RF CHARACTERISTICS:

Amplifier Power Out	$P_o$	*IFF/28V	1.25	—	—	Watts
Amplifier Power Gain	$P_g$		10.0	—	—	dB
Amplifier Power Out	$P_o$	*DME/28V	1.0	—	—	Watts
Amplifier Power Gain	$P_g$		9.5	—	—	dB
Amplifier Power Out	$P_o$	*TACAN/28V	.75	—	—	Watts
Amplifier Power Gain	$P_g$		9.0	—	—	dB

\*Pulsed Width 10  $\mu$ s, Duty Cycle 1%

SD-15222-X