



140 Commerce Drive
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SD1015

RF & MICROWAVE TRANSISTORS 108–152MHz APPLICATIONS

- FM CLASS C TRANSISTOR
- FREQUENCY 150MHz
- VOLTAGE 28V
- POWER OUT 30W
- POWER GAIN 10dB
- GOLD METALLIZATION
- COMMON EMITTER

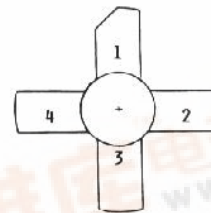


.380 4LSTUD (M135)
epoxy sealed

ORDER CODE
SD1015

BRANDING
SD1015

PIN CONNECTION



S88SD1015-01

1 collector
2 emitter

3 base
4 emitter

DESCRIPTION

The SD1015 is a 28V gold metallized epitaxial silicon NPN planar transistor designed for 108-152MHz FM applications.

This device utilizes diffused emitter resistors to achieve infinite VSWR at rated operating conditions.

ABSOLUTE MAXIMUM RATINGS ($T_{case} = 25^{\circ}\text{C}$)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector - Base Voltage	36.0	V
V_{CEO}	Collector - Emitter Voltage	18.0	V
V_{CES}	Collector - Emitter Voltage	36.0	V
V_{EBO}	Emitter - Base Voltage	4.0	V
I_C	Collector Current	1.0	A
P_{tot}	Total Power Dissipation	10.0	W
T_{stg}	Storage Temperature	- 65 to + 150	$^{\circ}\text{C}$
T_j	Junction Temperature	+ 200	$^{\circ}\text{C}$

THERMAL DATA

$R_{\theta JA(-c)}$	Junction-case Thermal Resistance	4.4	$^{\circ}\text{C}/\text{W}$
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March 1989

1/5

127

SD1015

ELECTRICAL CHARACTERISTICS ($T_{\text{case}} = 25^{\circ}\text{C}$)

STATIC

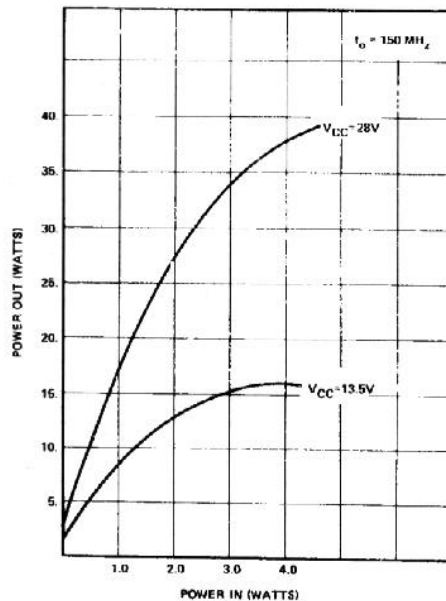
Symbol	Test Conditions	Value			Unit
		Min.	Typ.	Max.	
BV_{CES}	$I_C = 200\text{mA}$ $V_{BE} = 0$	65.0			V
BV_{CEO}	$I_E = 200\text{mA}$ $I_B = 0$	35.0			V
BV_{EBO}	$I_E = 10.0\text{mA}$ $I_C = 0$	4.0			V
I_{CBO}	$V_{CB} = 30.0\text{V}$ $I_E = 0$			2.0	mA
h_{FE}	$V_{CE} = 5.0\text{V}$ $I_C = 200\text{mA}$	35.0			

DYNAMIC

Symbol	Test Conditions	Value			Unit
		Min.	Typ.	Max.	
P_O	$f = 150\text{MHz}$ $V_{CC} = 13.5\text{V}$	12.5			W
G_P	$f = 150\text{MHz}$ $V_{CC} = 13.5\text{V}$	7.0			dB
P_O	$f = 150\text{MHz}$ $V_{CC} = 28\text{V}$	30			W
G_P	$f = 150\text{MHz}$ $V_{CC} = 28\text{V}$	10			dB
C_{OB}	$f = 1\text{MHz}$ $V_{CB} = 30.0\text{V}$ $I_E = 0$			250	pF
C_{ib}	$f = 1\text{MHz}$ $V_{EB} = 0.5\text{V}$ $I_C = 0$		300		pF

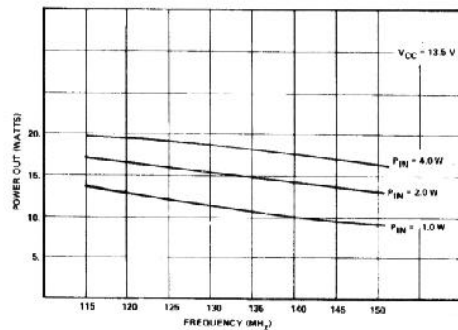
APPLICATION INFORMATION (typical curves)

POWER OUT VS POWER IN



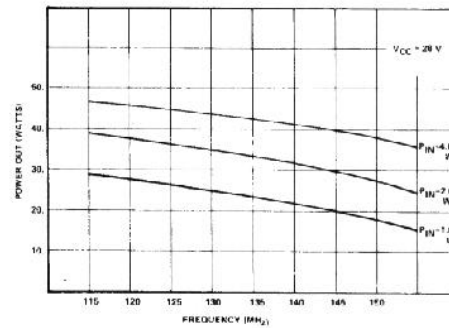
SB8SD1015-02

POWER OUT VS FREQUENCY (13.5V)



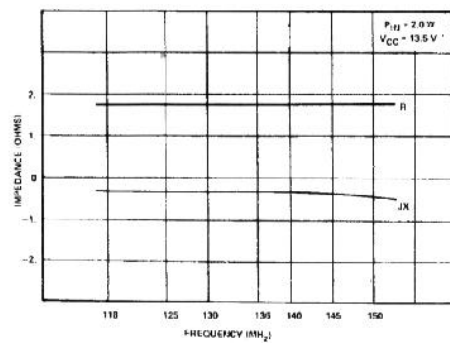
S88SD1015-03

POWER OUT VS FREQUENCY (28V)

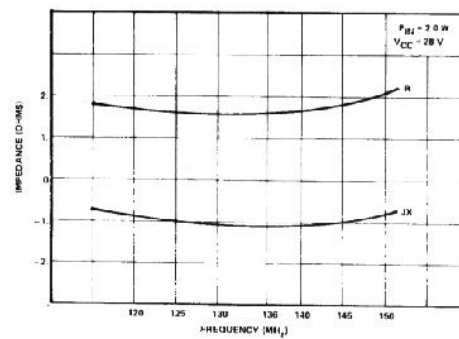


S88SD1015-04

SERIES SOURCE IMPEDANCE VS FREQUENCY (13.5V, 28V)

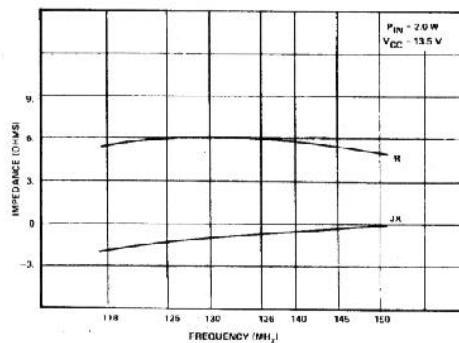


S88SD1015-05

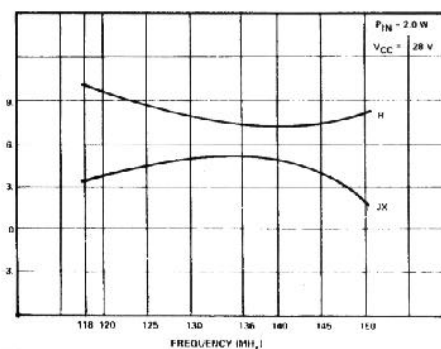


S88SD1015-06

SERIES COLLECTOR LOAD IMPEDANCE VS FREQUENCY (13.5V, 28V)



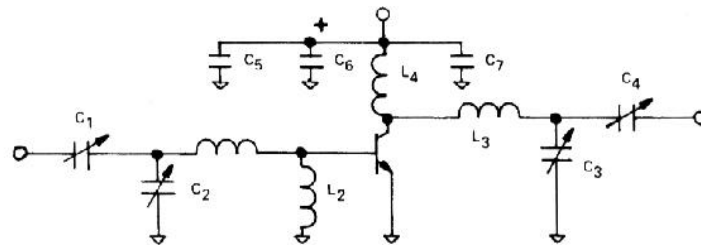
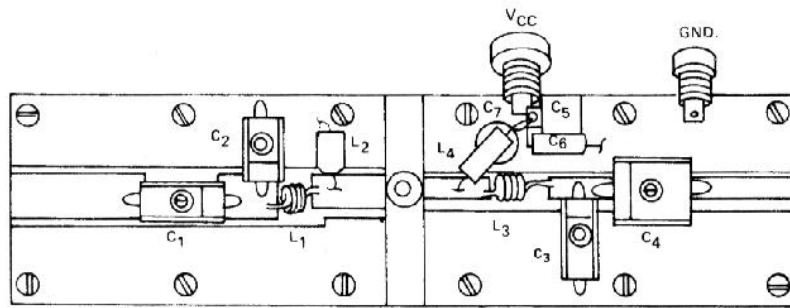
S88SD1015-07



S88SD1015-08

SD1015

TEST FIXTURE



S88SD1015 09

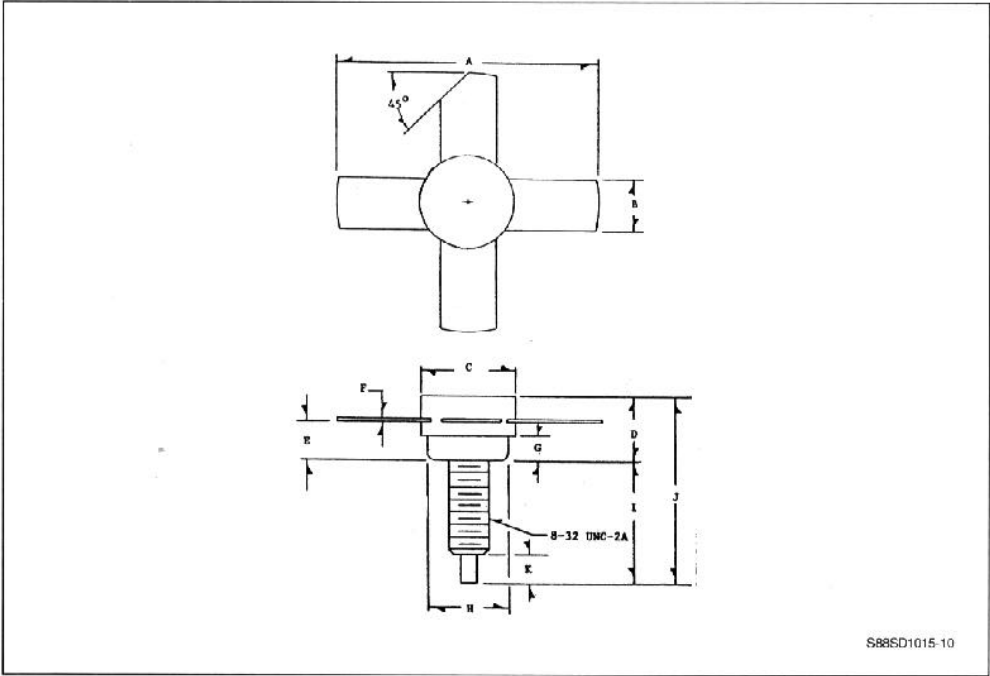
COMPONENT LIST

C₁, C₂ ARCO 422
 C₃ ARCO 422
 C₄ ARCO 463
 C₅ 1000pF UNELCO
 C₆ 10μF ELECTROLYTIC 35V

C₇ .01pF CEREMIC DISC.
 L₁ 3T #22, 1/8 ID
 L₂ RFC FERROXCUBE
 L₃ 2T #18, 1/4 ID
 L₄ .47μH MOLDED CHOKE

PACKAGE MECHANICAL DATA

.380 4LSTUD



	Minimum Inches	Maximum Inches
A	.980	
B	.220	.230
C	.370	.385
D		.275
E	.155	.175
F	.004	.007

	Minimum Inches	Maximum Inches
G	.090	.100
H	.320	.330
I	.450	.490
J		.750
K	.100	.130