

GENERAL DESCRIPTION

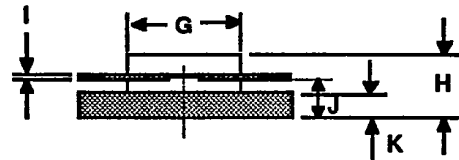
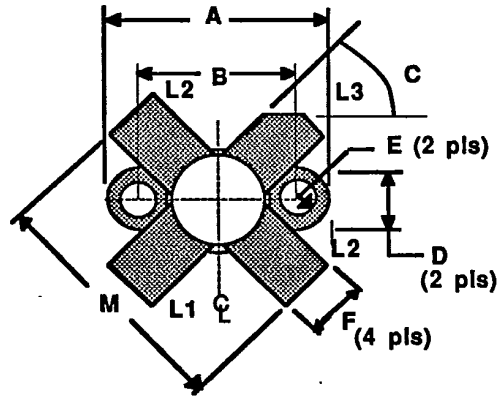
The S175-28 is a common emitter, high power device for linear HF applications. It is an extremely rugged device suitable for high power stages.

ABSOLUTE MAXIMUM RATINGS

Maximum Power Dissipation @ 25 C Case Temperature	320 W
Maximum Voltage and Current	
BVces Collector to Emitter Voltage	60 V
BVebo Emitter to Base Voltage	3.5 V
Ic Collector Current	30 A
Maximum Temperatures	
Storage Temperature	-65 to +150°C
Operating Junction Temperature	+200°C

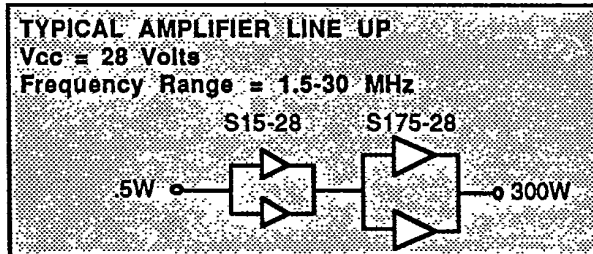
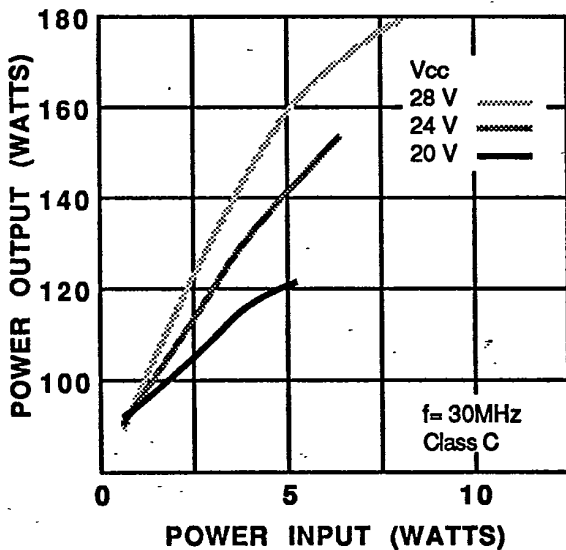
S175-28
 175 WATTS - 28 VOLTS
 1.5 - 30 MHz

HF COMMUNICATIONS



DIM	Millimeter	TOL	Inches	TOL
L1 : B	24.76	.13	.975	.005
L2 : E	18.42	.13	.725	.005
L3 : C	45°	5°	45°	5°
D	6.35	.13	.250	.005
E	3.17 DIA	.13	.125 DIA	.005
F	5.71	.13	.225	.005
G	12.70 DIA	.13	.500 DIA	.005
H	6.65	REF	.262	REF
I	0.13	.02	.005	.001
J	4.24	.13	.167	.005
K	3.17	.13	.125	.005
M	28.90	.25	1.140	.010

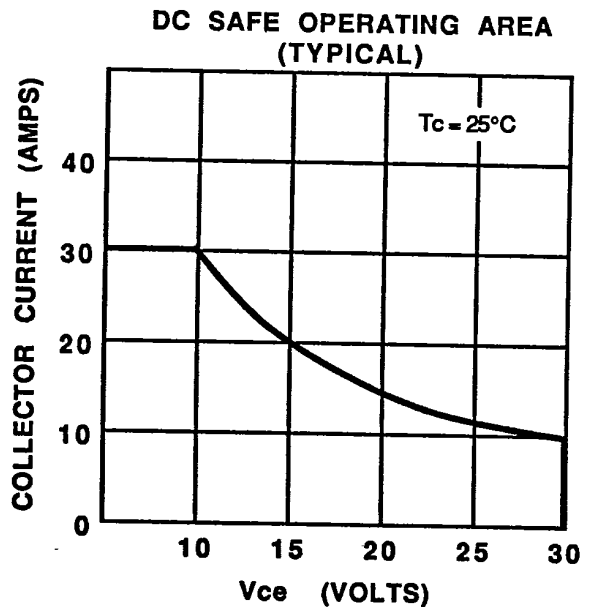
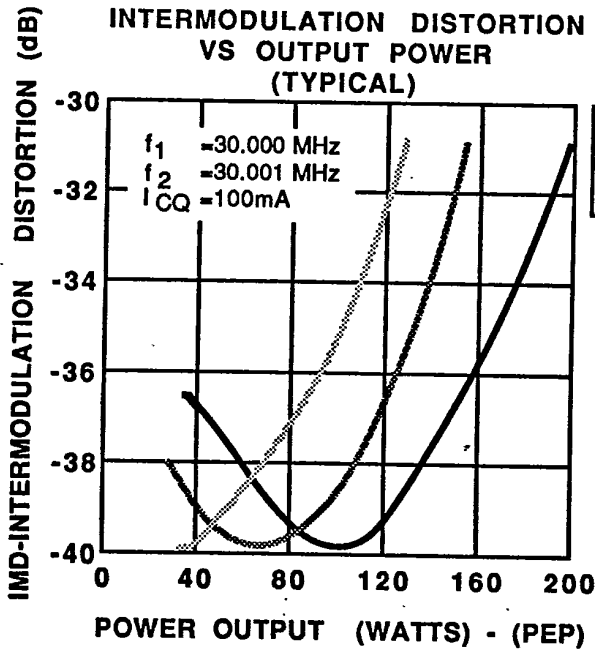
POWER OUTPUT VS POWER INPUT



S175-28-2

ELECTRICAL CHARACTERISTICS

SYMBOL	CHARACTERISTICS	TEST CONDITIONS	MIN.	TYP.	MAX.	UNITS
P _{out}	Power Output	f = 30 MHz, V _{cc} = 28V	175			Watts
P _{in}	Power Input	At Rated Power Out, V _{cc} = 28 V			7.0	Watts
P _g	Power Gain		14			dB
BV _{ebo}	Voltage - Emitter to Base	I _e = 10mA	3.5			Volts
BV _{ces}	Voltage - Collector to Emitter	I _c = 100mA	60			Volts
BV _{ceo}	Voltage - Collector to Emitter	I _c = 50mA	33			Volts
IMD	Intermodulation Distortion Level	P _{out} = 175W (PEP), V _{ce} = 28V f = 30 MHz			-32	dBc
VSWR	Load Mismatch Tolerance	f = 30 MHz, P _o = 175 W			30:1	
η _c	Collector Efficiency	At rated power out, V _{cc} = 28 V		65		%
h _{FE}	DC-Current Gain	V _{ce} = 5V, I _c = 1A	10			
θ _{jc}	Thermal Resistance	T _c = 25°C			.55	°C/W

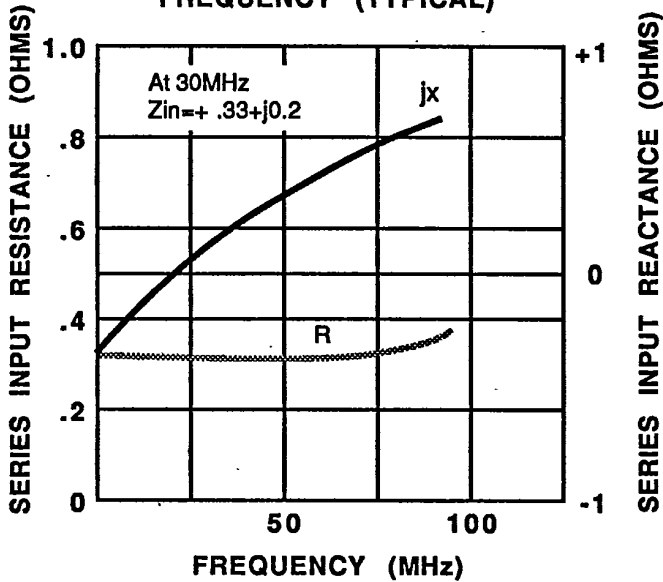


SPECIFICATIONS MAY BE SUBJECT TO CHANGE WITHOUT NOTICE

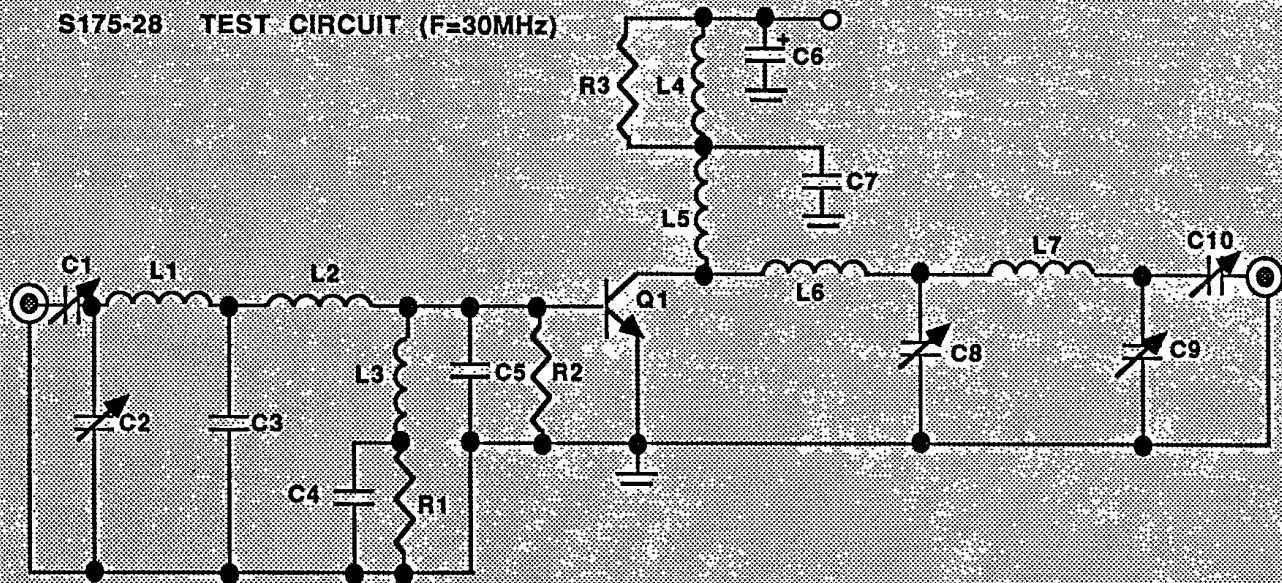
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S175-28-3

SERIES INPUT IMPEDANCE VS FREQUENCY (TYPICAL)



S175-28 TEST CIRCUIT (F=30MHz)



- | | | | | | |
|--------|------------------------|-------|-------------------------|----|--|
| Q1 | S175-28 | C7 | 1500pF Dura Mica | L1 | 3 1/2 turns #18 Wire, 1/2" Dia. |
| C1, C2 | 10-180pF ARCO T51413-1 | C8, 9 | 60-340pF, ARCO T51813-2 | L2 | 1 turn #18 wire, 1/2" I.D. |
| C3 | 500pF Underwood | C10 | 25-240pF, ARCO T51513-3 | L3 | Ferrite choke VK200-10/3B Ferroxcube |
| C4 | 0.1MF, 25V disc mica | R1 | 1.5 Ohm, 1/2 W | L4 | 20 turns #20 wire on T106-2, Micrometals, Inc. |
| C5 | 1000pF Underwood | R2 | 15 Ohm, 1/2 W | L5 | 5 turns #18 wire, 1/2" I.D. |
| C6 | 50MF, 50V Tantalum | R3 | 22 Ohm, 2 W | L6 | 1 turn #18 wire, 1/2" I.D. |
| | | | | L7 | 3 turns #18 wire, 1/2" I.D. |

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