



Spectrum Devices Corporation

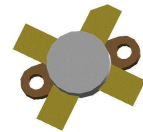
Semiconductor Engineering and Manufacturing

RF & MICROWAVE TRANSISTORS VHF MOBILE APPLICATIONS

VHF28-150

FEATURES:

- 108 MHz
- 28 Volts
- Common Emitter
- Gold Metallization
- P_{out} = 150W Min. with 9.2 dB Gain
- Replacement for SD1460



**.500" DIAMETER
SOE PACKAGE**

DESCRIPTION:

The VHF 28-150 is a 28V gold metallized epitaxial silicon NPN planar transistor designed for VHF FM broadcast transmitters. This device utilizes diffused emitter resistors to achieve infinite VSWR at rated operating conditions.

ABSOLUTE MAXIMUM RATINGS: ($T_{CASE} = 25^{\circ}C$)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	60	V
V_{CEO}	Collector-Emitter Voltage	25	V
V_{CES}	Collector-Emitter Voltage	60	V
V_{EBO}	Emitter-Base Voltage	4.0	V
I_C	Device Current	16	A
P_{DISS}	Power Dissipation	230	W
T_J	Junction Temperature	+200	$^{\circ}C$
T_{STG}	Storage Temperature	-65 to +150	$^{\circ}C$

THERMAL DATA:

$R_{TH(J-C)}$	Thermal Resistance Junction-case	0.75	$^{\circ}C/W$
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ELECTRICAL SPECIFICATIONS ($T_{CASE} = 25^{\circ}C$)

DC CHARACTERISTICS

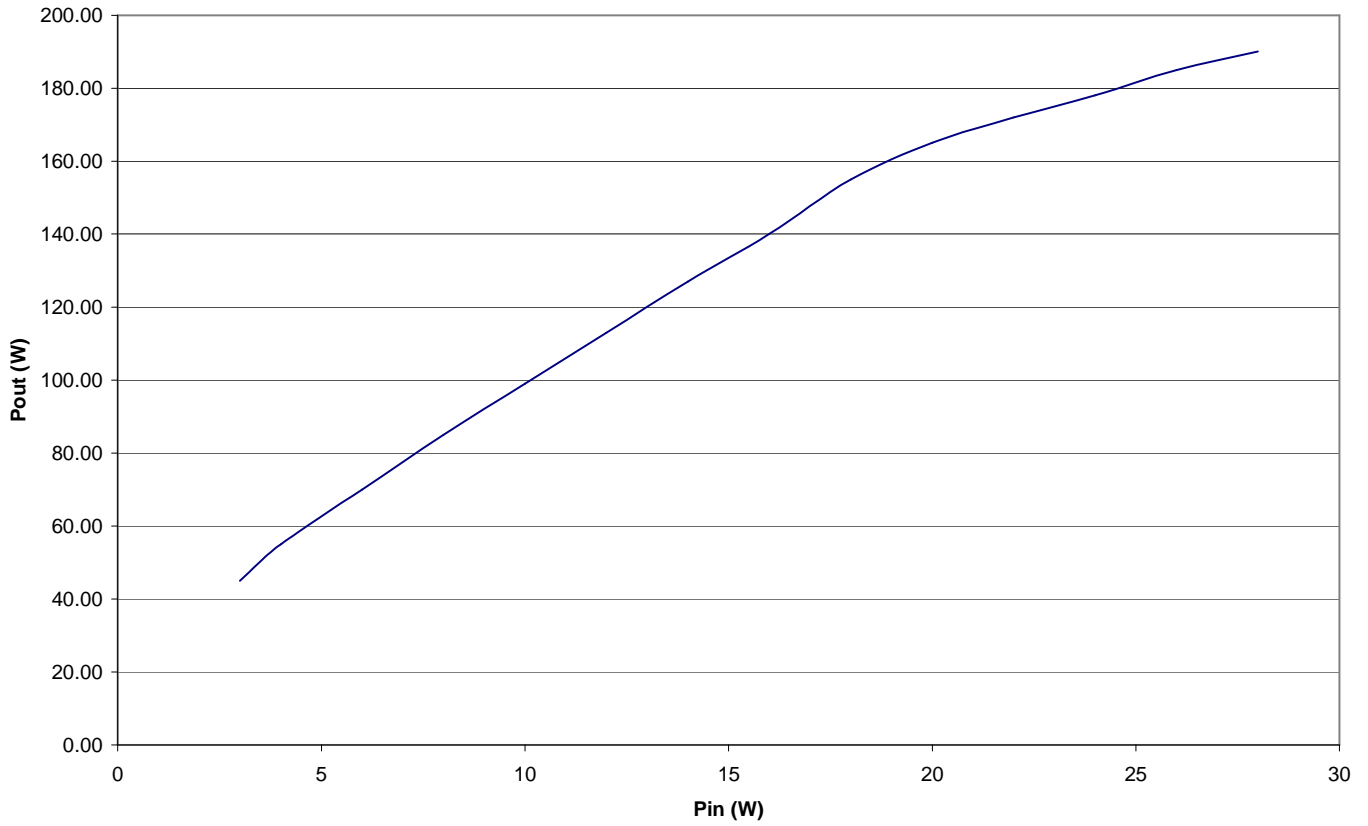
Symbol	Test Conditions	Value			Unit
		Min.	Typ.	Max.	
BV_{CBO}	$I_C = 100mA$ $I_E = 0 mA$	60	--	--	V
BV_{CER}	$I_C = 100mA$ $R_{BE} = 0 mA$	55			
BV_{CEO}	$I_C = 100mA$ $I_B = 0 mA$	25	--	--	V
BV_{EBO}	$I_E = 20 mA$ $I_C = 0 mA$	4.0	--	--	V
h_{FE}	$V_{CE} = 5V$ $I_C = 1A$	20	--	150	--

RF CHARACTERISTICS

Symbol	Test Conditions	Value			Unit
		Min.	Typ.	Max.	
P_{OUT}	$f = 108 MHz$ $P_{IN} = 18W$ $V_{CE} = 28V$	150	--	--	W
G_P	$f = 108 MHz$ $P_{IN} = 18W$ $V_{CE} = 28V$	9.2	--	--	dB
η_C	$f = 108 MHz$ $P_{IN} = 18W$ $V_{CE} = 28V$	70	--	--	
C_{OB}	$f = 1 MHz$ $V_{CE} = 28V$	--	--	150	pF

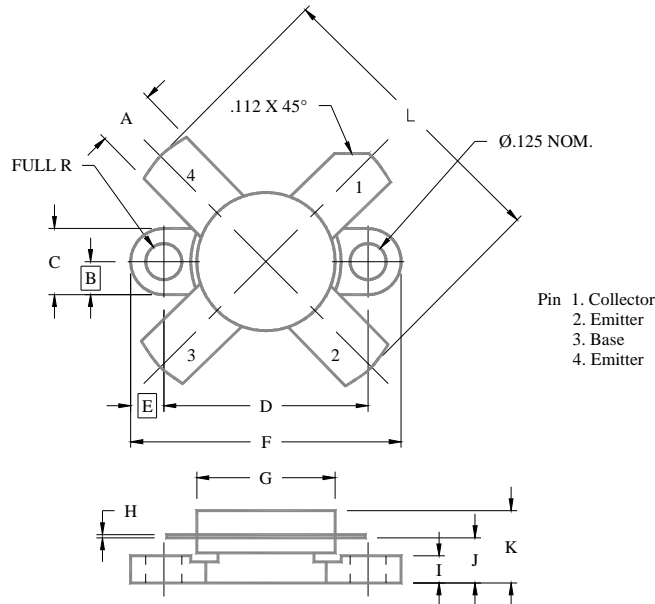
TYPICAL CHARACTERISTICS

Power Output vs Power Input



PACKAGE MECHANICAL DATA

SOE - 500



	MINIMUM INCHES/MM	MAXIMUM INCHES/MM		MINIMUM INCHES/MM	MAXIMUM INCHES/MM
A	.220/5,59	.230/5,84	I	.090/2,29	.110/2,79
B	.125/3,18		J	.160/4,06	.175/4,45
C	.245/6,22	.255/6,48	K		.280/7,11
D	.720/18,28	.730/18,54	L		1.050/26,67
E	.125/3,18				
F	.970/24,64	.980/24,89			
G	.495/12,57	.505/12,83			
H	.003/0,08	.007/0,18			

	Minimum Inches/MM	Maximum Inches/MM		Minimum Inches/MM	Maximum Inches/MM
A	.220/5.59	.230/5.84	G	.085/2.16	.105/2.67
B	.785/19.94		H	.160/4.06	.180/4.57
C	.720/18.29	.730/18.54	I	.260/7.11	
D	.970/24.64	.980/24.89	J	.240/6.10	.255/6.48
E	.385/9.78				
F	.004/0.10	.006/0.15			

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