New Jersey Semi-Conductor Products, Inc.

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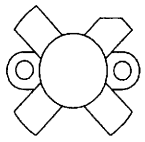
SD1460

VHF Power Transistor

The SD1460 is a 28V VHF Transistor designed primarily to be used in FM broadcast applications in class A,B or C modes of operation. The device utilizes gold top and back metal, and incorporates emitter resistors for improved ruggedness.

- 108MHz
- 150 Watt Pout
- 28V Supply
- 10dB Gain
- Gold Metallization
- Diffused Emitter Ballast Resistors for Ruggedness

150 W – 108MHz VHF POWER TRANSISOTR



.500 SOE F

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Collector-Emitter Voltage	V_{CEO}	25	V
Collector-Base Voltage	V_{CBO}	60	V
Emitter-Base Voltage	V_{EBO}	3.0	V
Collector Current - Continuous	I_C	16	A
Total Device Dissipation (T_C=25C)	P_D	150	Watts
Derate above 70C		1	W/C
Operating Junction Temperature	T_J	200	C
Storage Temperature Range	Tstg	-65 to +200	C

THERMAL CHARACTERISTICS

Characteristics	Symbol	Max	Unit
Thermal Resistance, Junction to Case (T_C=70C)	$R_{\text{theta JC}}$	1	C/W

ELECTRICAL CHARACTERISTICS

Characteristics	Symbol	Min	Typ	Max	Unit
OFF CHARACTERISTICS					
Collector-Emitter Breakdown Voltage (I_C = 100mA, I_B=0)	$V_{(BR)CEO}$	25			V
Collector-Base Breakdown Voltage (I_C=100mA, I_E=0)	$V_{(BR)CBO}$	60			V
Emitter-Base Breakdown Voltage (E=20mA, E=0)	$V_{(BR)EBO}$	3.0			V
Collector-Emitter Breakdown Voltage (E=100mA, R_{BE}=10 Ohms	$V_{(BR)CER}$	55			V
ON CHARACTERISTICS					
DC Current Gain (I_C= 1A, V_{CE} = 5V)	h_{FE}	20		150	
DYNAMIC CHARACTERISTICS					
Output Capacitance (V_{CB} = 28V, I_E=0, f =1 MHz)	C_{ob}	---	---	150	$_pF$

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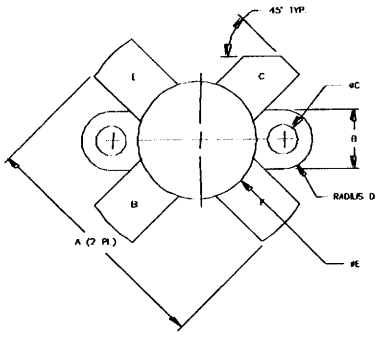
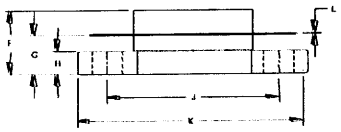
DYNAMIC CHARACTERISTICS cont.

Characteristic	Symbol	Min	Typ	Max	Unit
Common-Emitter Amplifier Gain (V_{CE}=28V, P_{out}=150W, f=108MHz)	C_{ob}	9.2			dB
Collector Efficiency (V_{CE} = 28V, P_{out}=150W, f =108MHz)	Eff	70	75		%
LOAD Mismatch (V_{CE}=28V, P_{out}=150W, f=108MHz) Load VSWR = 4:1, all Phase Angles		No Degradation in Output Power			





	MINIMUM INCHES/MM	MAXIMUM INCHES/MM
A	1.000 / 25.4 MINIMUM	
B	0.245 / 6.22	0.255 / 6.48
C	0.120 / 3.05	0.130 / 3.30
D	0.245 / 6.22	0.255 / 6.48
E	0.495 / 12.57	0.505 / 12.83
F	0.300 / 7.62 MAXIMUM	
G	0.155 / 3.94	0.175 / 4.45
H	0.097 / 2.34	0.102 / 2.59
J	0.720 / 18.29	0.730 / 18.54
K	0.970 / 24.64	0.980 / 24.89
L	0.004 / 0.102	0.006 / 0.152

Quality Semi-Conductors