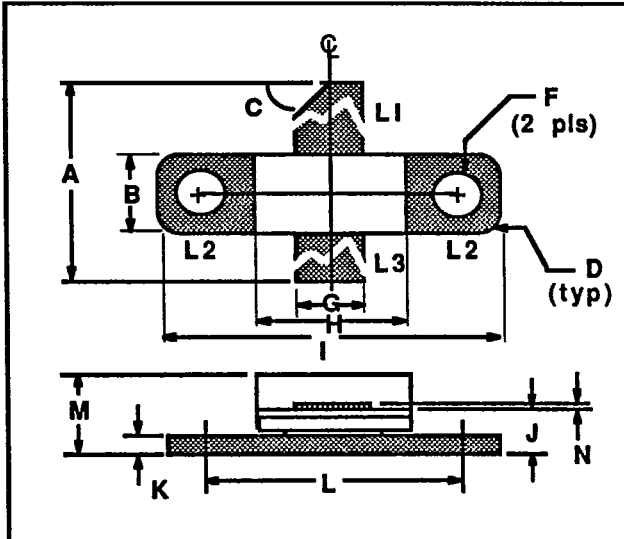


GENERAL DESCRIPTION

The 0510-10 is a common emitter silicon power transistor providing 10 watts of CW power across a 500-1000 frequency band. Gold metallization and emitter ballasting provide for high reliability and ruggedness. The 0510-10 can be operated Class C, AB or at the 2 watt level of Class A.

0510-10
10 WATTS - 28 VOLTS
500-1000 MHz

UHF COMMUNICATIONS



ABSOLUTE MAXIMUM RATINGS

Maximum Power Dissipation @ 25 C Case Temperature 30 W

Maximum Voltage and Current

BVces Collector to Emitter Voltage 50 V
 BVebo Emitter to Base Voltage 4.0 V
 Ic Collector Current 1.0 A

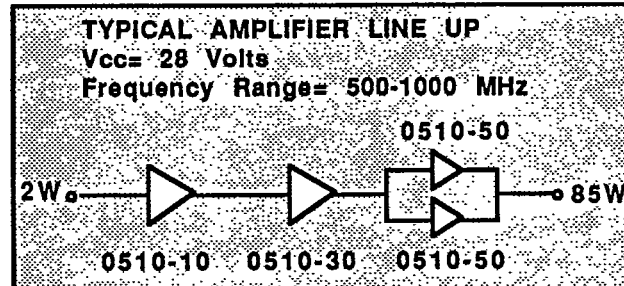
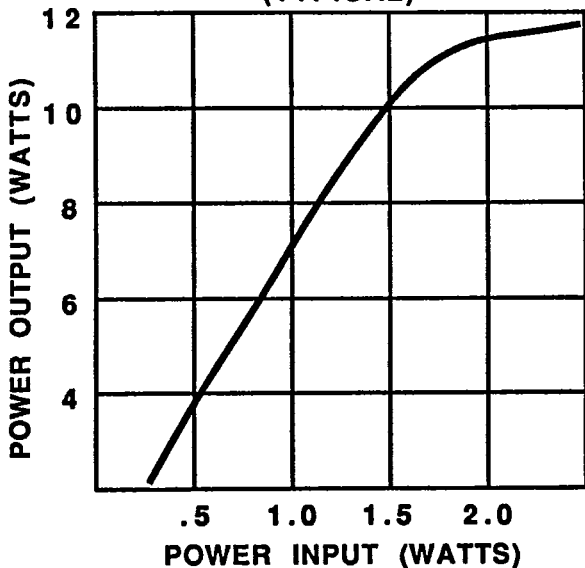
Maximum Temperatures

Storage Temperature -65 to +150°C
 Operating Junction Temperature +200°C

L1 : G
 L2 : S
 L3 : D

DIM	Millimeter	TOL	Inches	TOL
A	17.78	.76	.70	.03
B	5.84	.13	.230	.005
C	45°	5°	45°	5°
D	0.63R	.13	.025R	.005
E	0.13	.02	.005	.001
F	3.30 DIA	.13	.130 DIA	.005
G	5.46	.13	.215	.005
H	9.14	.13	.360	.005
I	20.32	.13	.800	.005
J	3.17	.13	.125	.005
K	1.14	.13	.045	.010
L	14.22	.13	.560	.005
M	5.46	REF	.215	REF

POWER OUTPUT VS POWER INPUT (TYPICAL)

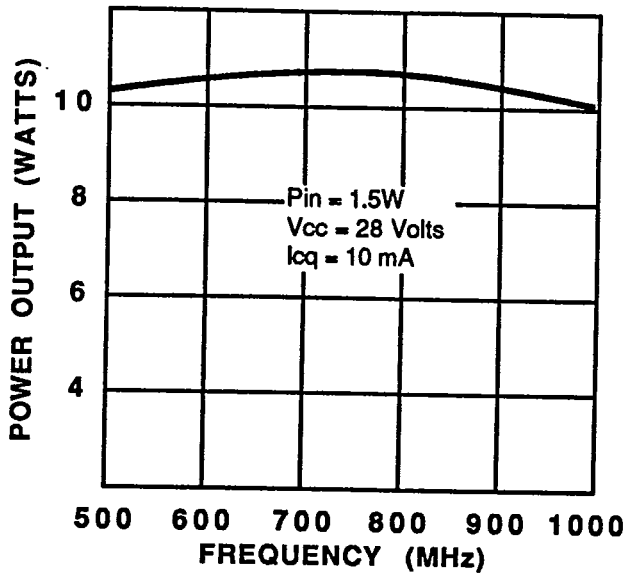


0510-10-2

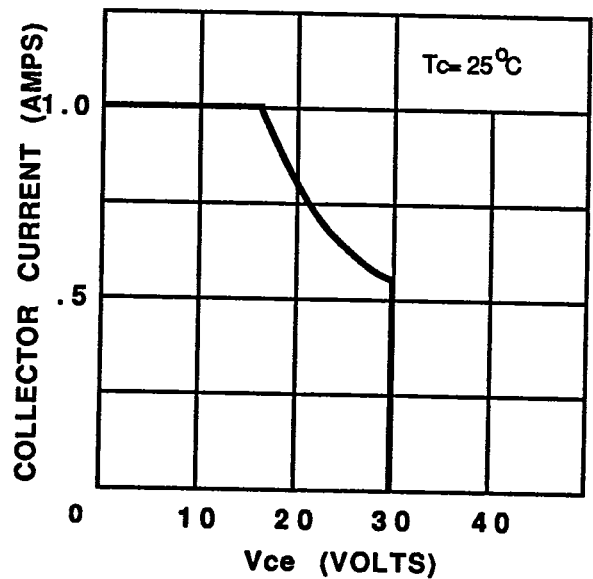
ELECTRICAL CHARACTERISTICS

SYMBOL	CHARACTERISTICS	TEST CONDITIONS	MIN.	TYP.	MAX.	UNITS
P _{out}	Power Output (Class AB)	f = 1000 MHz V _{cc} = 28 V I _{cq} = 10 mA	10			Watts
P _{in}	Power Input				1.5	Watts
I _c	Collector Current				0.8	Amps
η _c	Collector Efficiency		50			%
VSWR	Load Mismatch Tolerance	At Rated Power Out			3:1	
BV _{ebo}	Breakdown Voltage (Emitter to Base)	I _c = 0, I _e = 5 mA	4.0			Volts
BV _{ces}	Breakdown Voltage (Collector to Emitter)	V _{be} = 0, I _c = 50 mA	50			Volts
BV _{ceo}	Breakdown Voltage (Collector to Emitter)	I _b = 0, I _c = 50 mA	29			Volts
C _{ob}	Capacitance-Collector to Base	f = 1 MHz, V _{cb} = 28 V		11		pF
h _{FE}	DC-Current Gain	V _c = 5 V, I _c = 200 mA	10			
θ _{jc}	Thermal Resistance	T _c = 25 °C			6.0	°C/W

POWER OUTPUT VS FREQUENCY (TYPICAL)



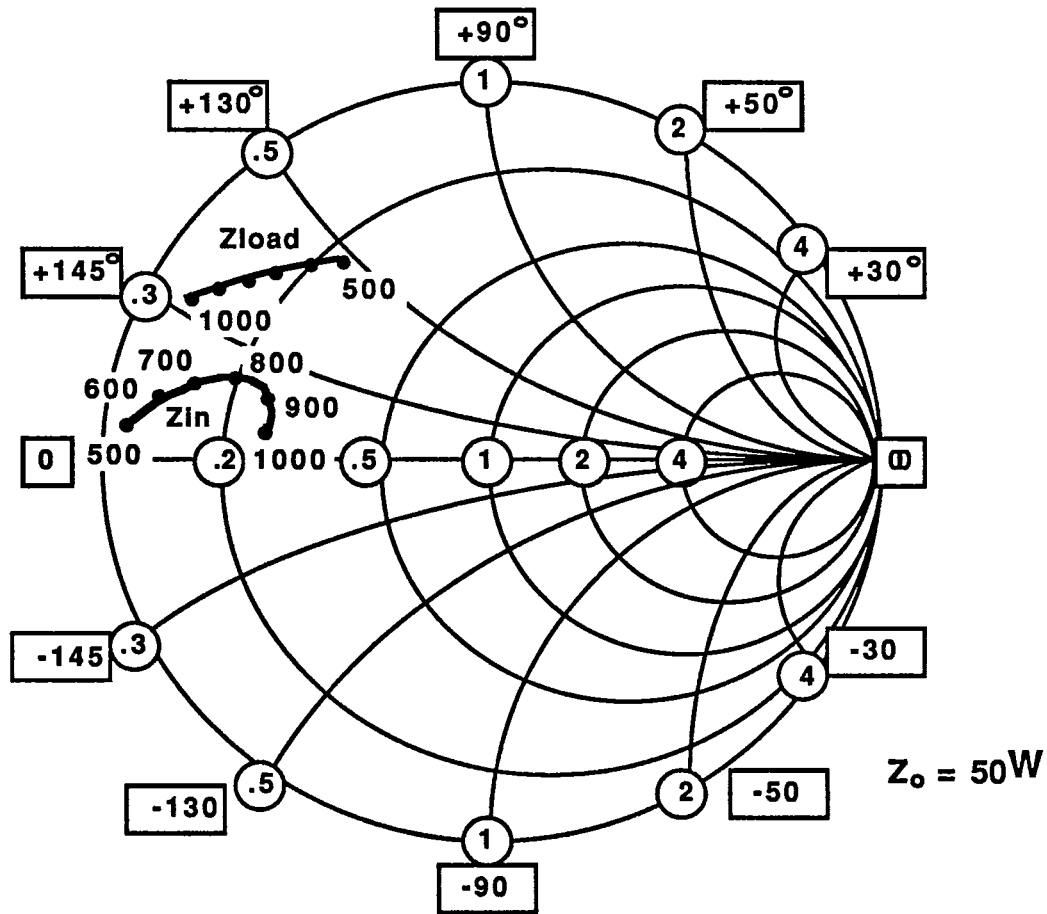
DC SAFE OPERATING AREA (TYPICAL)



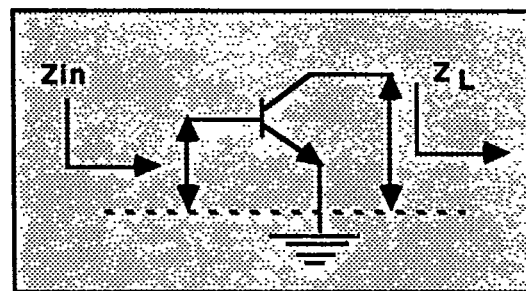
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SMITH CHART
0510-10

NORMALIZED IMPEDANCE AND ADMITTANCE COORDINATES



Typical series input and output impedances at rated power output conditions for single side normalized to 50 ohms.



FREQUENCY MHz	R	Zin jX	FREQUENCY MHz	R	Zload jX
500	4.0	+3.8	500	13.2	+23.3
600	5.8	+4.9	600	11.8	+21.1
700	7.9	+5.8	700	10.0	+18.9
800	9.6	+5.5	800	8.5	+16.3
900	10.8	+4.8	900	7.0	+14.4
1000	10.6	+3.0	1000	5.2	+12.0

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