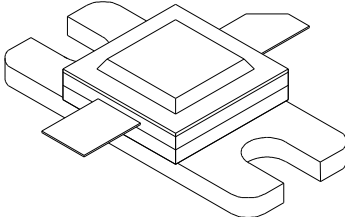


MDS150

150 Watts, 50 Volts, Pulsed
 Avionics 1030 - 1090 MHz

GENERAL DESCRIPTION <p>The MDS150 is a high power COMMON BASE bipolar transistor. It is designed for MODE-S systems in the 1030 - 1090 MHz frequency band. The transistor includes double input prematch and output prematch for broadband performance. The device has gold thin-film metallization and diffused ballasting in a hermetically sealed package for proven highest MTTF.</p>	CASE OUTLINE 55AW Style 1 
ABSOLUTE MAXIMUM RATINGS Maximum Power Dissipation Device Dissipation @25°C ¹ 350 W Maximum Voltage and Current Collector to Emitter Voltage (BV _{ces}) 55 V Emitter to Base Voltage (BV _{ebo}) 3.5 V Peak Collector Current (I _c) 10 A Maximum Temperatures Storage Temperature -65 to +150 °C Operating Junction Temperature +200 °C	

ELECTRICAL CHARACTERISTICS @ 25°C

SYMBOL	CHARACTERISTICS	TEST CONDITIONS	MIN	TYP	MAX	UNITS
P _{out}	Power Out	F = 1030, 1090 MHz	150			W
P _{in}	Power Input	V _{cc} = 50 Volts			20	W
P _g	Power Gain	PW = Note 2	8.75			dB
η _c	Collector Efficiency	DF = Note 2	40			%
VSWR	Load Mismatch Tolerance				3:1	
Pd ¹	Pulse Droop				0.5	dB
Trise ¹	Rise Time				100	nSec

FUNCTIONAL CHARACTERISTICS @ 25°C

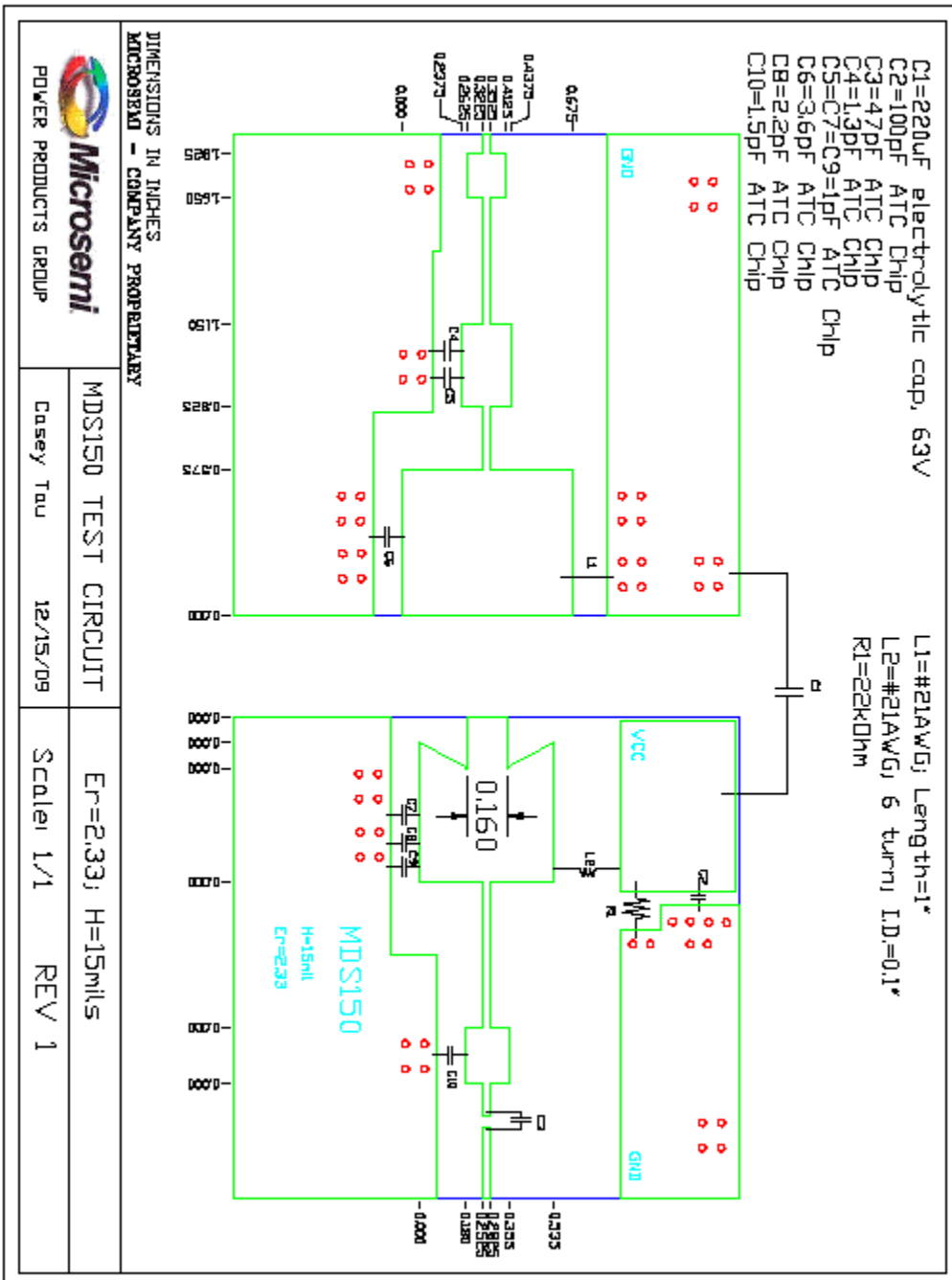
BV _{ebo}	Emitter to Base Breakdown	I _e = 10 mA	3.5			V
BV _{ces}	Collector to Emitter Breakdown	I _c = 30 mA	55			V
BV _{cbo}	Collector to Base Breakdown	I _c = 30 mA	55			V
h _{FE}	DC – Current Gain	V _{ce} = 5V, I _c = 1 A	10			
θ _{jc} ¹	Thermal Resistance				0.5	°C/W

NOTE 1: AT RATED OUTPUT POWER AND PULSE CONDITIONS

NOTE 2: Burst: 0.5uS ON, 0.5uS OFF x 128, repeated every 6.4mS

REV B: MAY 2010

MDS150



MDS150

