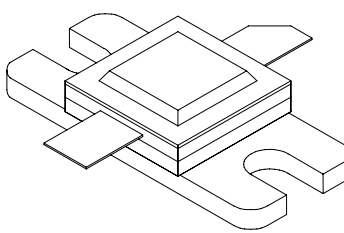




MDS60L

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

<p>GENERAL DESCRIPTION</p> <p>The MDS60L is a high power COMMON BASE bipolar transistor. It is designed for MODE-S ELM systems in the 1030 - 1090 MHz frequency band. The transistor includes a double input prematch for broadband performance. The device has gold thin-film metallization and diffused ballasting in a hermetically sealed package for proven highest MTTF.</p>	<p>CASE OUTLINE 55AW Style 1</p> 
<p>ABSOLUTE MAXIMUM RATINGS</p> <p>Maximum Power Dissipation Device Dissipation @25°C¹ 120 W</p> <p>Maximum Voltage and Current Collector to Emitter Voltage (BV_{ces}) 65 V Emitter to Base Voltage (BV_{ebo}) 3.5 V Peak Collector Current (I_c) 4 A</p> <p>Maximum Temperatures Storage Temperature -65 to +150 °C Operating Junction Temperature +200 °C</p>	

ELECTRICAL CHARACTERISTICS @ 25°C

SYMBOL	CHARACTERISTICS	TEST CONDITIONS	MIN	TYP	MAX	UNITS
P _{out}	Power Out	F = 1030, 1090 MHz	60			W
P _{in}	Power Input	V _{cc} = 50 Volts			6	W
P _g	Power Gain	PW = Note 2	10			dB
η _c	Collector Efficiency	DF = Note 2		34		%
VSWR	Load Mismatch Tolerance				2:1	
Pd ¹	Pulse Droop				0.8	dB
Trise ¹	Rise Time				100	nSec

FUNCTIONAL CHARACTERISTICS @ 25°C

BV _{ebo}	Emitter to Base Breakdown	I _e = 5 mA	3.5			V
BV _{ces}	Collector to Emitter Breakdown	I _c = 25 mA	65			V
BV _{cbo}	Collector to Base Breakdown	I _c = 25 mA	65			V
h _{FE}	DC – Current Gain	V _{ce} = 5V, I _c = 500 mA	20			
θ _{jc} ¹	Thermal Resistance				0.5	°C/W

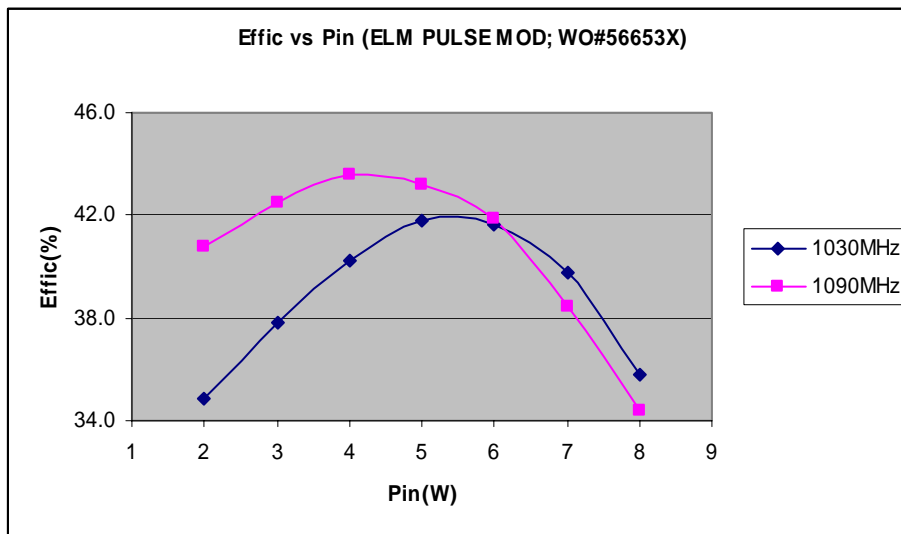
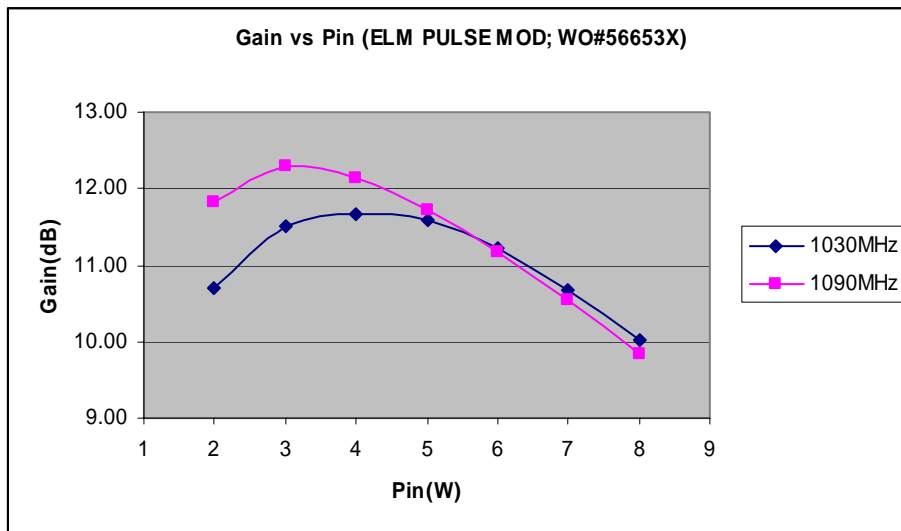
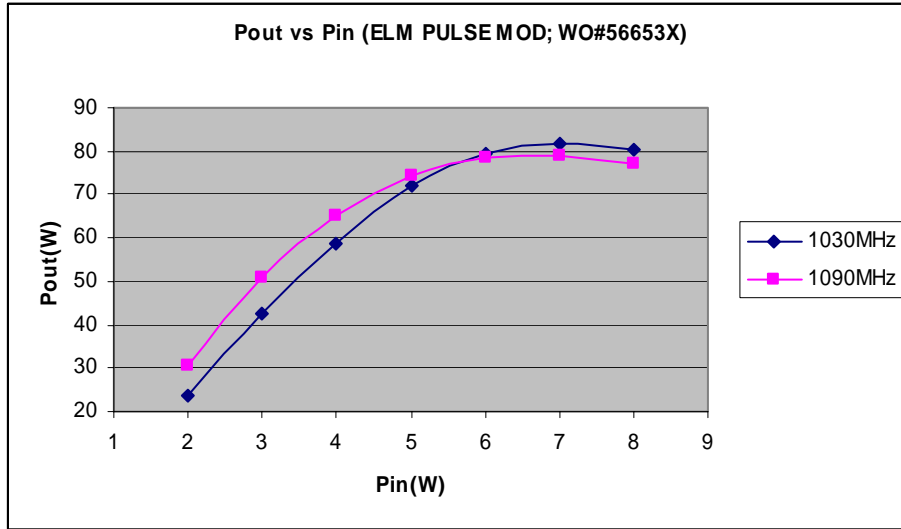
NOTE 1: AT RATED OUTPUT POWER AND PULSE CONDITIONS

NOTE 2: ELM Burst: 32μSec ON/ 18μSec OFF x 48, repeated at 23mSec

Rev B: Updated July 2009

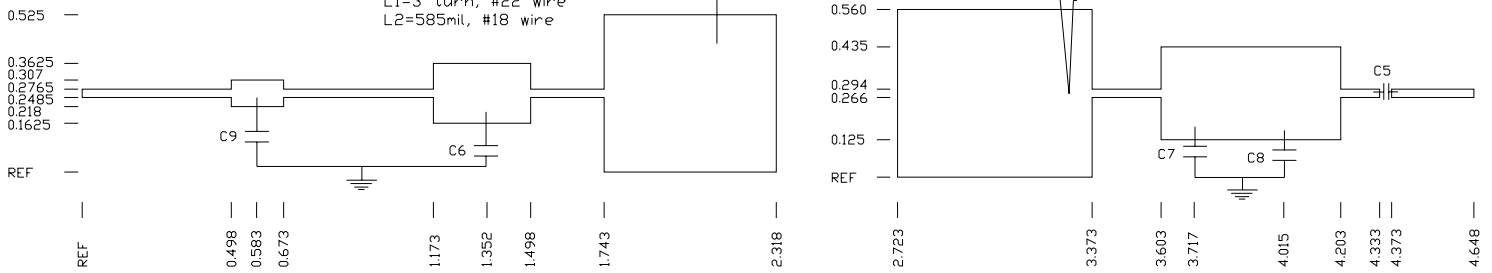
Microsemi reserves the right to change, without notice, the specifications and information contained herein. Visit our web site at www.microsemi.com or contact our factory direct.

MDS60L SAMPLE RF DATA (SN#2-8; WO#56653X)



MDS60L TEST FIXTURE

C1=1000uF electrolytic cap
 C2=100uF electrolytic cap
 C3=0.1uF chip cap
 C4=C5=82pF chip cap
 C6=1.5pF chip cap
 C7=C8=0.5pF chip cap
 C9=0.5pF chip cap
 R1=4.2 ohm resistor
 L1=3 turn, #22 wire
 L2=585mil, #18 wire



NOTE: Dimensions in Inches

MDS60L

