



MDS350L

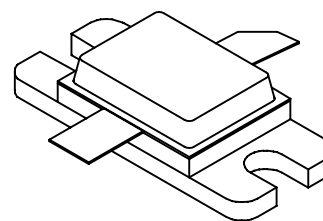
350 Watts, 45 Volts, Pulsed
Avionics 1030 - 1090 MHz

ADVANCED ISSUE

GENERAL DESCRIPTION

The MDS350L is a high power COMMON BASE bipolar transistor. It is designed for pulsed systems in the frequency band 1030 - 1090 MHz. The transistor includes input and output prematch for broadband performance. The device has gold thin-film metallization and diffused ballasting for proven highest MTTF. Low thermal resistance Solder Sealed Package reduces junction temperature, extends life.

CASE OUTLINE 55KT Style 1



ABSOLUTE MAXIMUM RATINGS

Maximum Power Dissipation

Device Dissipation @25°C 583 W

Maximum Voltage and Current

Collector to Base Voltage (BV_{ces}) 55 V

Emitter to Base Voltage (BV_{ebo}) 3.5 V

Collector Current (I_c) 30 A

Maximum Temperatures

Storage Temperature -65 to +200 °C

Operating Junction Temperature +200 °C

ELECTRICAL CHARACTERISTICS @ 25°C

SYMBOL	CHARACTERISTICS	TEST CONDITIONS	MIN	TYP	MAX	UNITS
P_{out}	Power Out	$F = 1090 \text{ MHz}$	350			W
P_{in}	Power Input	$V_{cc} = 45 \text{ Volts}$			55	W
P_g	Power Gain	$PW = \text{Note 1}$	8			dB
η_c	Collector Efficiency	$DF = \text{Note 1}$		47		%
VSWR	Load Mismatch Tolerance	$F = 1030 \text{ MHz}$			2:1	

FUNCTIONAL CHARACTERISTICS @ 25°C

BV_{ebo}	Emitter to Base Breakdown	$I_e = 50 \text{ mA}$	3.5			V
BV_{ces}	Collector to Emitter Breakdown	$I_c = 100 \text{ mA}$	55			V
h_{FE}	DC - Current Gain	$V_{ce} = 5V, I_c = 2A$	20			
θ_{jc}^2	Thermal Resistance				0.3	°C/W

NOTE 1: 250 μ s at 10% Duty

2. At rated pulse conditions

Initial Issue May 1999