

### GENERAL DESCRIPTION

The LDR100SB utilizes the most advanced design and process technologies. These features provide the most consistent and reliable chip and package combination designed, built and tested specifically for L-Band radar. The device is common base input/output matched in a hermetic package. Gold metallization and diffused emitter ballasting provide high reliability.

### ABSOLUTE MAXIMUM RATINGS

Maximum Power Dissipation @ 25°C Case Temperature 350 W

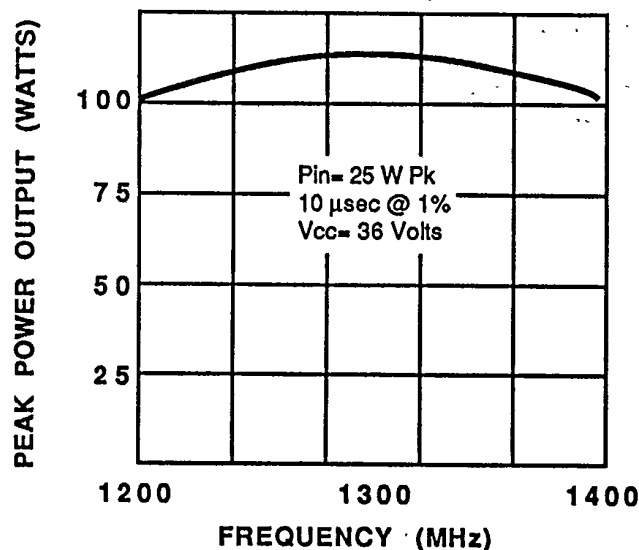
#### Maximum Voltage and Current

BVces Collector to Emitter Voltage 50 V  
 BVebo Emitter to Base Voltage 3.5 V  
 Ic Collector Current 10 A

#### Maximum Temperatures

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

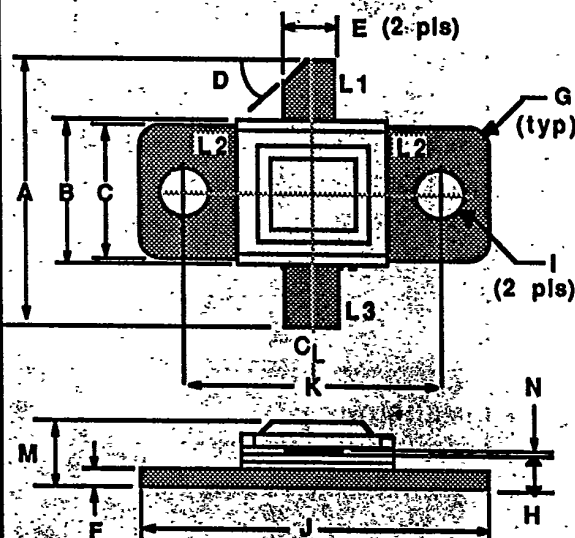
### POWER OUTPUT VS FREQUENCY (TYPICAL)



## LDR100SB

100 WATTS - 36 VOLTS  
 1200/1400 MHz

### RADAR

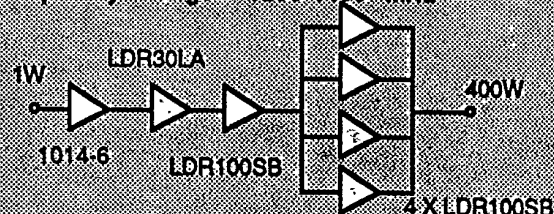


DIM	Millimeter	TOL	Inches	TOL
L1 : c				
L2 : b				
L3 : e				
A	20.32	.76	.800	.030
B	10.16	.13	.400	.005
C	9.78	.13	.385	.005
D	45.0	.50	45.0	.50
E	3.81	.13	.150	.005
F	1.52	.13	.060	.005
G	1.52 R	.13	.060 R	.005
H	3.05	.13	.120	.005
I	3.30 DIA	.13	.130 DIA	.005
J	22.86	.13	.900	.005
K	16.51	.13	.650	.005
M	5.46	REF	.215	REF
N	0.13	.02	.005	.001

### TYPICAL AMPLIFIER LINE UP

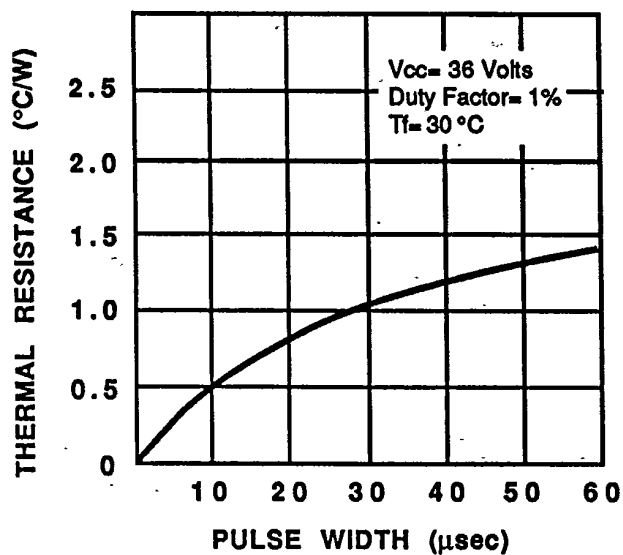
Vcc = 36 Volts

Frequency Range = 1200-1400 MHz

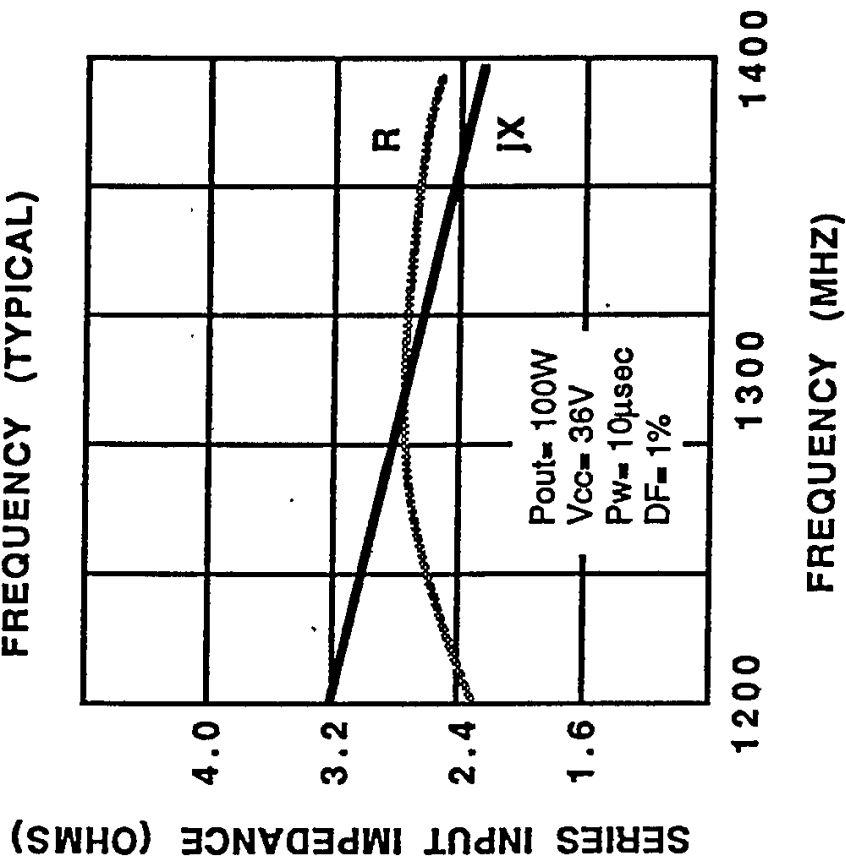


**LDR100SB-2****ELECTRICAL CHARACTERISTICS<sup>1</sup>**

SYMBOL	CHARACTERISTICS	TEST CONDITIONS	MIN.	TYP.	MAX.	UNITS
P <sub>out</sub>	Power Output	f= 1200-1400 MHz V <sub>cc</sub> = 36 Volts Pulse Width= 10 $\mu$ sec Duty Factor= 1%	100			Watts
P <sub>in</sub>	Power Input				20	Watts
P <sub>g</sub>	Power Gain		7.0			dB
$\eta_c$	Collector Efficiency			40		%
VSWR	Load Mismatch Tolerance				3:1	
B <sub>Vebo</sub>	Breakdown Voltage (Emitter to Base)	I <sub>e</sub> = 15mA	3.5			Volts
B <sub>Vces</sub>	Breakdown Voltage (Collector to Emitter)	I <sub>c</sub> = 100mA	50			Volts
h <sub>FE</sub>	DC-Current Gain	V <sub>ce</sub> = 5V, I <sub>c</sub> = 400 mA	10			
$\theta_{jc}$	Thermal Resistance	10 $\mu$ sec @ 1%			0.5	$^{\circ}$ C/W

Note 1: T<sub>c</sub> = +25 $^{\circ}$ C unless otherwise specified**THERMAL RESISTANCE VS  
PULSE WIDTH (TYPICAL)**

SPECIFICATIONS MAY BE SUBJECT TO CHANGE WITHOUT NOTICE

**LDR100SB-3****SERIES INPUT IMPEDANCE VS  
FREQUENCY (TYPICAL)****SERIES LOAD IMPEDANCE VS  
FREQUENCY (TYPICAL)**