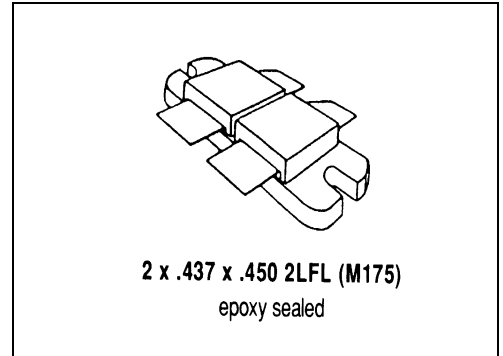


**MS1533**

**RF & MICROWAVE TRANSISTORS  
TV/LINEAR APPLICATIONS**

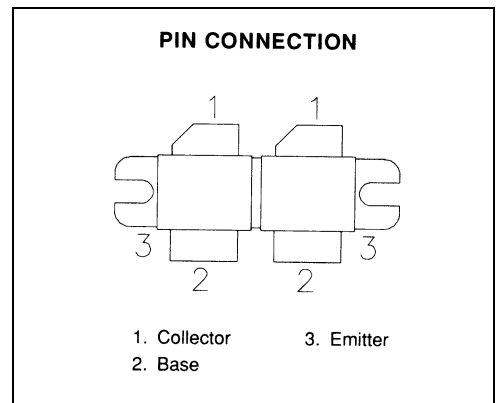
**Features**

- 470 - 860 MHz
- 28 VOLTS
- INTERNAL INPUT MATCHING
- CLASS AB LINEAR
- $P_{OUT} = 150$  WATTS
- $G_P = 6.5$  dB MINIMUM
- COMMON EMITTER CONFIGURATION



**DESCRIPTION:**

The MS1533 is a gold metallized epitaxial silicon NPN planar transistor designed for high linearity Class AB operation in UHF and Band IV, V television transmitters and transposers.



**ABSOLUTE MAXIMUM RATINGS (Tcase = 25°C)**

Symbol	Parameter	Value	Unit
$V_{CBO}$	Collector-Base Voltage	60	V
$V_{EBO}$	Emitter-Base Voltage	3.0	V
$V_{CEO}$	Collector-Emitter Voltage	30	V
$P_{DISS}$	Power Dissipation	310	W
$I_C$	Device Current	25	A
$T_J$	Junction Temperature	+200	°C
$T_{STG}$	Storage Temperature	-65 to +150	°C

**Thermal Data**

$R_{TH(J-C)}$	Thermal Resistance Junction-case	.55	°C/W
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## ELECTRICAL SPECIFICATIONS (T<sub>case</sub> = 25°C)

### STATIC

Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
BV <sub>CBO</sub>	I <sub>C</sub> = 100 mA	I <sub>E</sub> = 0mA	60	---	---	V
BV <sub>CEO</sub>	I <sub>C</sub> = 100 mA	I <sub>B</sub> = 0 mA	30	---	---	V
BV <sub>EBO</sub>	I <sub>E</sub> = 50 mA	I <sub>C</sub> = 0 mA	3.0	---	---	V
I <sub>CES</sub>	V <sub>CE</sub> = 28 V	I <sub>E</sub> = 0 mA	---	---	10	mA
HFE	V <sub>CE</sub> = 5 V	I <sub>C</sub> = 4 A	15	---	70	---

### DYNAMIC

Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
P <sub>OUT</sub>	f = 860 MHz	P <sub>IN</sub> = 33 W	V <sub>CE</sub> = 28 V	150	---	---	W
G <sub>P</sub>	P <sub>OUT</sub> = 150 W	P <sub>IN</sub> = 33 W	V <sub>CE</sub> = 28 V	6.5	---	---	dB
η <sub>c</sub>	P <sub>OUT</sub> = 150 W	P <sub>IN</sub> = 33 W	V <sub>CE</sub> = 28 V	45	---	---	%
Cob	f = 1 MHz	P <sub>IN</sub> = 33 W	V <sub>CB</sub> = 28 V	---	---	100	pf

Conditions: V<sub>CE</sub> = 28 V I<sub>CQ</sub> = 2 x 500 mA

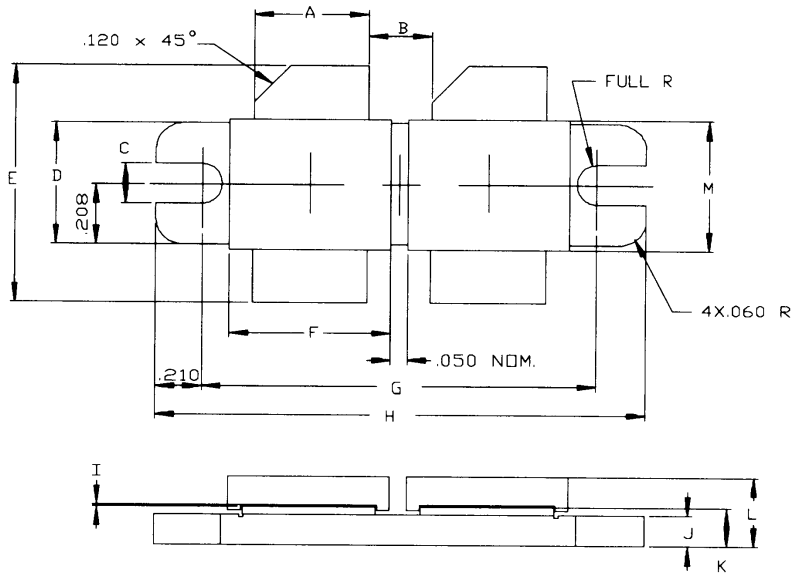
### IMPEDANCE DATA

FREQ	Z <sub>IN</sub> (Ω)	Z <sub>CL</sub> (Ω)
900 MHz	2.65 + j 0.8	2.4 - j 1.6
860 MHz	3.2 + j 1.6	2.3 - j 0.9
470 MHz	0.3 - j 1.2	1.2 - j 1.3

P<sub>OUT</sub> = 150 W  
V<sub>CE</sub> = 28 V

**MS1533**

**PACKAGE MECHANICAL DATA**



	MINIMUM Inches/mm	MAXIMUM Inches/mm		MINIMUM Inches/mm	MAXIMUM Inches/mm
A	.373/9,47	.385/9,78	K	.115/2,92	.135/3,43
B	.190/4,83		L		.250/6,35
C	.125/3,18		M	.445/11,30	.455/11,56
D	.411/10,44	.421/10,69			
E	.825/20,96	.865/21,97			
F	.525/13,34	.535/13,59			
G	1.255/31,88	1.265/32,13			
H	1.675/42,55	1.685/42,80			
I	.002/0,05	.006/0,15			
J	.095/2,41	.105/2,67			