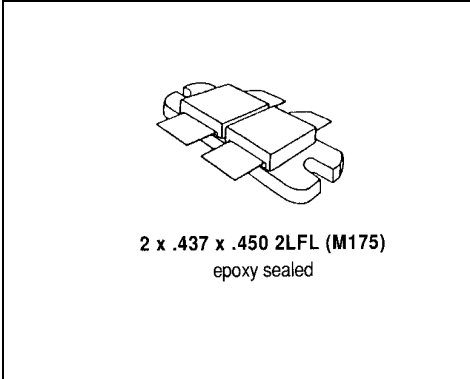


# SD1485

## RF & MICROWAVE TRANSISTORS TV/LINEAR APPLICATIONS

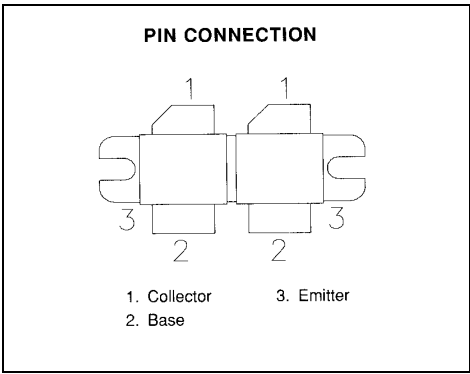
### Features

- 170 - 230 MHz
- 32 VOLTS
- P<sub>OUT</sub> = 200 WATTS
- G<sub>P</sub> = 11.0 dB GAIN MINIMUM
- INTERNAL INPUT MATCHING
- COMMON EMITTER CONFIGURATION



### DESCRIPTION:

The SD1485 is a gold metallized epitaxial silicon NPN planar transistor using diffused emitter ballast resistors for high linearity Class AB operation in VHF and Band III television transmitters and transposers.



### ABSOLUTE MAXIMUM RATINGS (T<sub>case</sub> = 25°C)

Symbol	Parameter	Value	Unit
V <sub>CBO</sub>	Collector-Base Voltage	65	V
V <sub>CEO</sub>	Collector-Emitter Voltage	35	V
V <sub>EBO</sub>	Emitter-Base Voltage	3.0	V
I <sub>C</sub>	Device Current	25	A
P <sub>DISS</sub>	Power Dissipation	385	W
T <sub>J</sub>	Junction Temperature	200	°C
T <sub>STG</sub>	Storage Temperature	-65 to +150	°C

### Thermal Data

R <sub>TH(J-C)</sub>	Thermal Resistance Junction-case	0.45	°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> = 0 mA	65	---	---	V
BV <sub>CER</sub>	I <sub>C</sub> = 100 mA	R <sub>BE</sub> = 15 Ω	60	---	---	V
BV <sub>CEO</sub>	I <sub>C</sub> = 100 mA	I <sub>B</sub> = 0 mA	35	---	---	V
BV <sub>EBO</sub>	I <sub>E</sub> = 20 mA	I <sub>C</sub> = 0 mA	3.0	---	---	V
I <sub>CES</sub>	V <sub>CE</sub> = 32 V	I <sub>E</sub> = 0 mA	---	---	10	mA
HFE	V <sub>CE</sub> = 5 V	I <sub>C</sub> = 4 A	20	---	70	---

### DYNAMIC

Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
P <sub>OUT</sub>	f = 230 MHz	V <sub>CE</sub> = 32 V	I <sub>CQ</sub> = 2 x 500 mA	200	---	---	W
G <sub>P</sub>	f = 230 MHz	V <sub>CE</sub> = 32 V	I <sub>CQ</sub> = 2 x 500 mA	11	---	---	dB
η <sub>C</sub>	f = 230 MHz	V <sub>CE</sub> = 32 V	I <sub>CQ</sub> = 2 x 500 mA	50	---	---	%
C <sub>OB</sub>	f = 1 MHz	V <sub>CB</sub> = 28 V		---	---	190	pF

### IMPEDANCE DATA

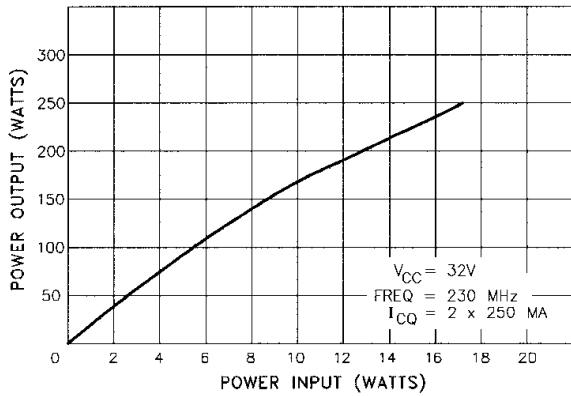
FREQ	Z <sub>IN</sub> (Ω)	Z <sub>CL</sub> (Ω)
170 MHz	2.7 + j1.0	3.7 + j3.0
200 MHz	2.1 + j1.5	3.4 + j3.7
230 MHz	1.4 + j2.2	3.0 + j4.1

P<sub>OUT</sub> = 200W

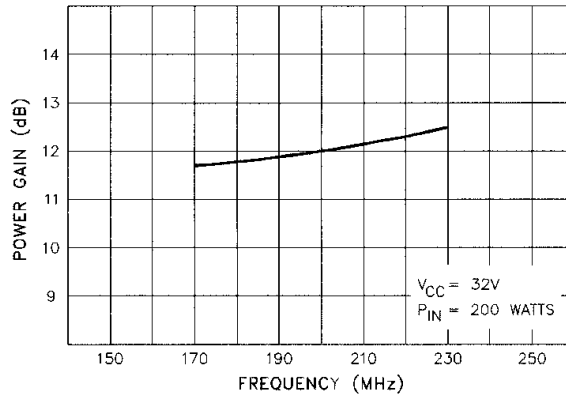
V<sub>CC</sub> = 32V

**TYPICAL PERFORMANCE**

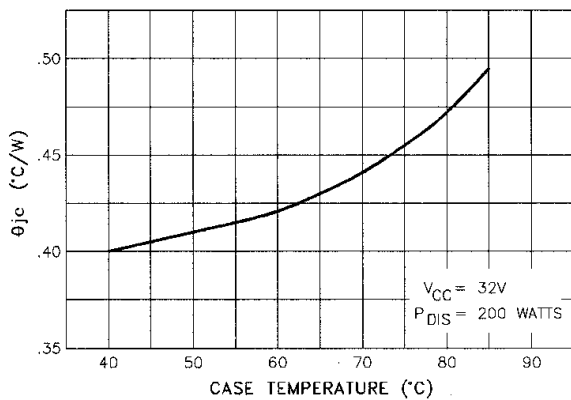
**POWER OUTPUT vs POWER INPUT**



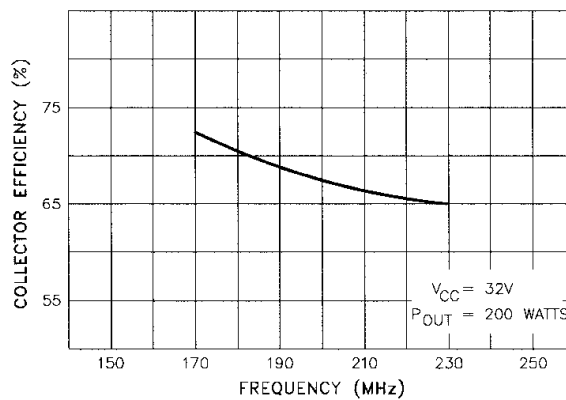
**BRAODBAND POWER GAIN vs FREQUENCY**



**THERMAL RESISTANCE vs CASE TEMPERATURE**

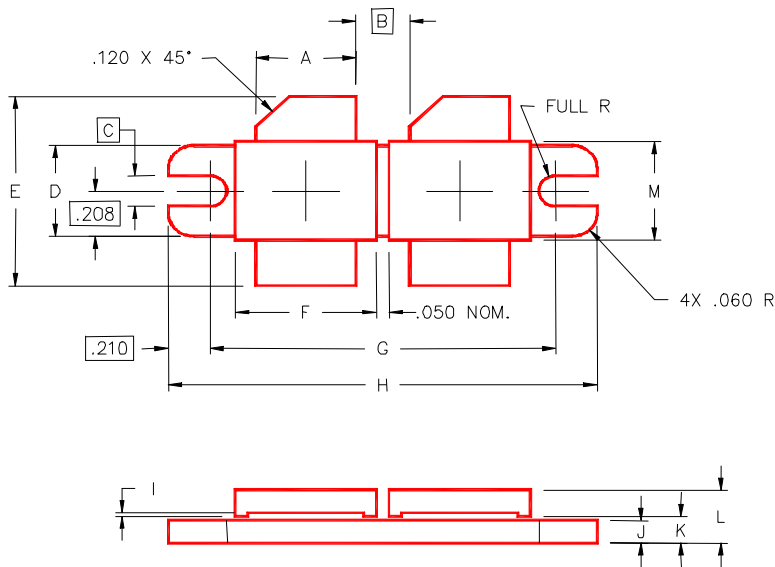


**COLLECTOR EFFICIENCY vs FREQUENCY**



**PACKAGE MECHANICAL DATA**

PACKAGE STYLE M175



	MINIMUM INCHES/MM	MAXIMUM INCHES/MM		MINIMUM INCHES/MM	MAXIMUM INCHES/MM
A	.373/9,47	.385/9,78	I	.002/0,05	.006/0,15
B	.190/4,83		J	.095/2,41	.105/2,67
C	.125/3,18		K	.115/2,92	.135/3,43
D	.411/10,44	.421/10,69	L	.250/6,35	
E	.825/20,96	.865/21,97	M	.445/11,30	.455/11,56
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			