

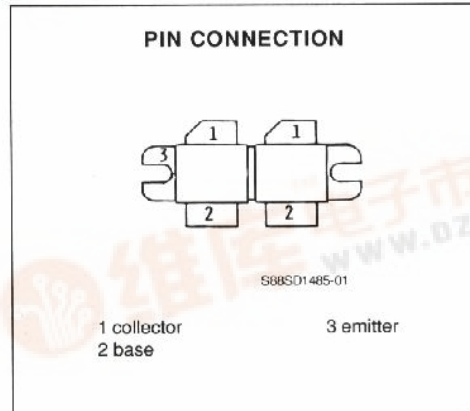
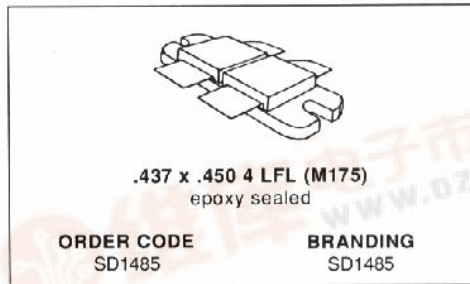
Microsemi
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SD1485

**RF & MICROWAVE TRANSISTORS
TV BAND III APPLICATIONS**

- FREQUENCY 170 – 230MHz
- POWER OUT 200 W
- VOLTAGE 32V
- POWER GAIN 11dB
- CLASS AB PUSH PULL
- DESIGNED FOR HIGH POWER LINEAR OPERATION
- HIGH SATURATED POWER CAPABILITY
- GOLD METALLIZATION FOR HIGH RELIABILITY
- DIFFUSED EMITTER BALLASTING RESISTORS
- COMMON EMITTER CONFIGURATION
- INTERNAL INPUT MATCHING



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_{case} = 25°C)

Symbol	Parameter	Value	Unit
V _{CB0}	Collector - Base Voltage	65	V
V _{CE0}	Collector - Emitter Voltage	35	V
V _{EB0}	Emitter - Base Voltage	3	V
I _C	Collector Current (max.)	25	A
P _{tot}	Total Device Dissipation at + 25°C	385	W
T _{stg}	Storage Temperature	- 50 to 150	°C
T _J	Junction Temperature	200	°C

THERMAL DATA

R _{th(j-c)}	Junction-case Thermal Resistance T _C = 60°C	.45	°C/W
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February 1989

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SD1485

ELECTRICAL CHARACTERISTICS ($T_{case} = 25^{\circ}C$)

STATIC

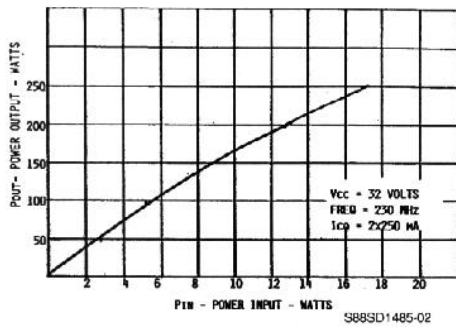
Symbol	Test Conditions	Value			Unit
		Min.	Typ.	Max.	
BV_{CEO}	$I_C = 100mA$ $I_B = 0$	35			V
BV_{CBO}	$I_C = 100mA$	65			V
BV_{EBO}	$I_E = 20mA$	3			V
I_{CES}	$V_{CB} = 32V$			10	mA
h_{FE}	$V_{CE} = 5V$ $I_C = 4A$	20		70	

DYNAMIC

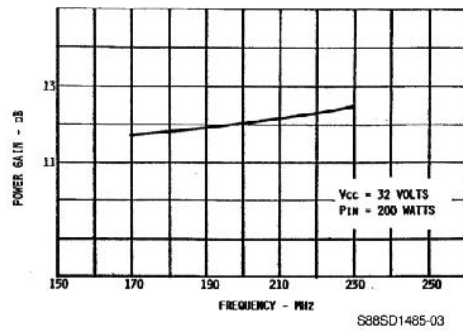
Symbol	Test Conditions	Value			Unit
		Min.	Typ.	Max.	
P_O^*	$f = 230MHz$ $V_{CE} = 32V$ $I_{CQ} = 1A$	200			W
P_G	$f = 230MHz$ $V_{CE} = 32V$ $I_{CQ} = 1A$	11			dB
nc	$f = 230MHz$ $V_{CE} = 32V$ $I_{CQ} = 1A$	50			%
V_{SWR}	$f = 230MHz$ $V_{CE} = 32V$ $P_O = 200W$	3 : 1			
C_{OB}	$f = 1MHz$ $V_{CB} = 28V$		130		pF

* 1 DB compression

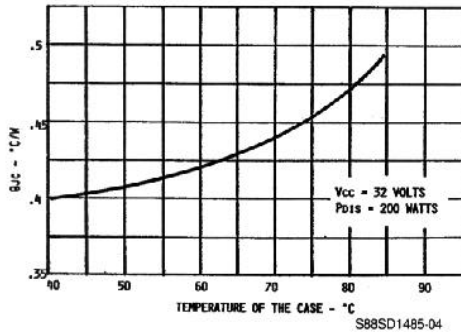
POWER OUTPUT VS POWER INPUT



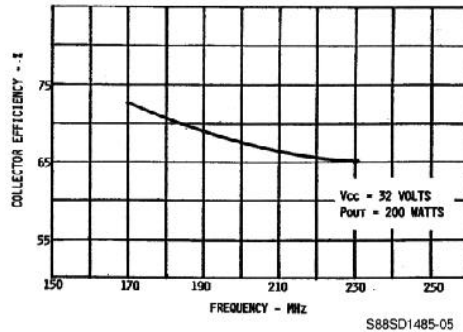
BROADBAND POWER GAIN VS FREQUENCY



IR SCAN HOT SPOT θ_{JC} VS CASE TEMPERATURE

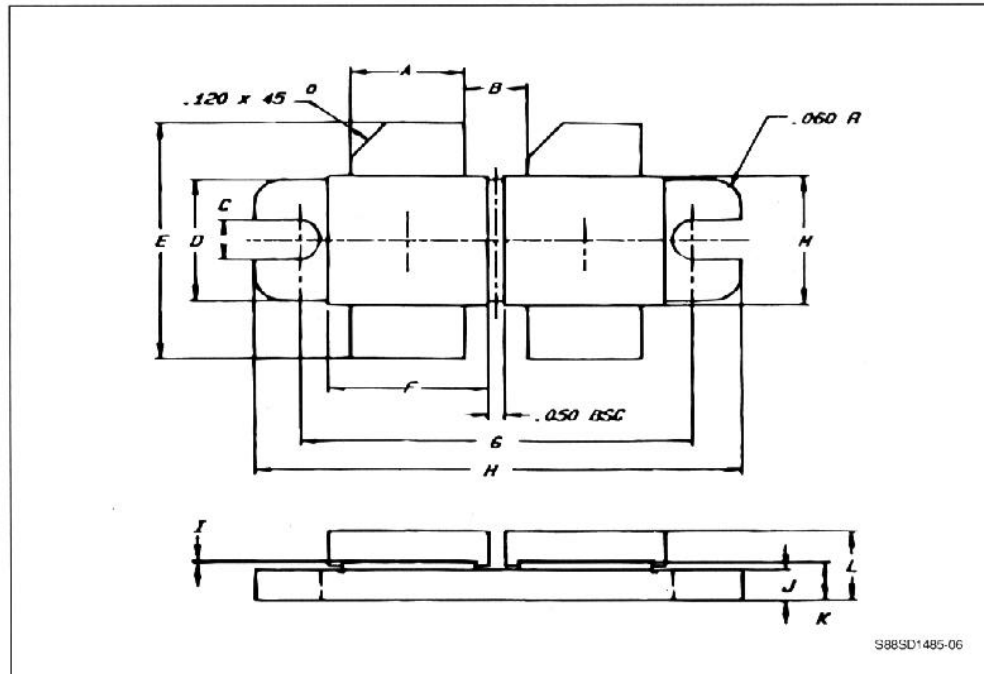


EFFICIENCY VS FREQUENCY



PACKAGE MECHANICAL DATA

.437 x .450 4LFL



	Minimum Inches/mm	Maximum Inches/mm
A	.373/9.47	.385/9.78
B	.190/4.83 BSC	
C	.125/3.18 BSC	
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

	Minimum Inches/mm	Maximum Inches/mm
H	1.675/42.55	1.685/42.80
I	.002/0.05	.006/0.15
J	.095/2.41	.105/2.67
K	.115/2.92	.135/3.43
L		.250/6.35
M	.445/11.30	.455/11.56