Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!

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ADVANCED POWER TECHNOLOGY RF®

140 COMMERCE DRIVE
MONTGOMERYVILLE, PA
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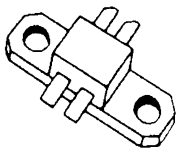
MS1579

RF & MICROWAVE TRANSISTORS
TV LINEAR APPLICATIONS



.250 x .320 4LFL (M156)
epoxy sealed

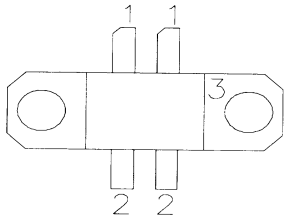
Features

- 470 - 860 MHz
- 25 VOLTS
- CLASS A OPERATION
- INTERNAL INPUT MATCHING
- P_{OUT} = 14 WATTS
- G_P = 8.5 dB MINIMUM
- COMMON EMITTER CONFIGURATION

DESCRIPTION:

The MS1579 is a gold metallized, epitaxial silicon NPN transistor designed for Class A, UHF and Band IV, V television transmitters applications. Diffused emitter ballast resistors ensure long term reliability under Class A linear operation.

PIN CONNECTION



1. Collector
2. Base
3. Emitter

ABSOLUTE MAXIMUM RATINGS (Tcase = 25°C)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	45	V
V_{CEO}	Collector-Emitter Voltage	25	V
V_{EBO}	Emitter-Base Voltage	4.0	V
P_{DISS}	Power Dissipation	65	W
I_C	Device Current	5.2	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	2.5	°C/W

ELECTRICAL SPECIFICATIONS (Tcase = 25°C)

STATIC

Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
BV_{CBO}	I_C = 20 mA	I_E = 0 mA	45	---	---	V
BV_{CEO}	I_C = 40 mA	I_B = 0 mA	25	---	---	V
BV_{EBO}	I_E = 5 mA	I_C = 0 mA	3.0	---	---	V
HFE	V_{CE} = 20 V	I_C = 0.5 A	10	---	200	---

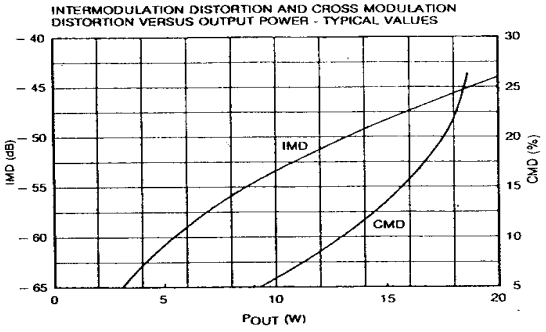
DYNAMIC

Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
P_{OUT}	f = 845 MHz	P_{IN} = 2.0	V_{CE} = 25 V	14	---	---	W
G_P	P_{OUT} = 14 W	P_{IN} = 2.0	V_{CE} = 25 V	8.5	---	---	dB
IMD_3	P_{OUT} = 14 W	P_{IN} = 2.0	V_{CE} = 25 V	---	-47	---	dBc
C_{OB}	f =1 MHz	V_{CB} = 25 V		---	---	20	pf

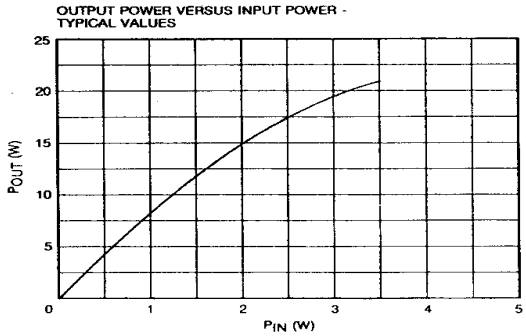
Conditions: V_{CE} = 25 V I_{CQ} = 2 x 850 mA

TYPICAL PERFORMANCE

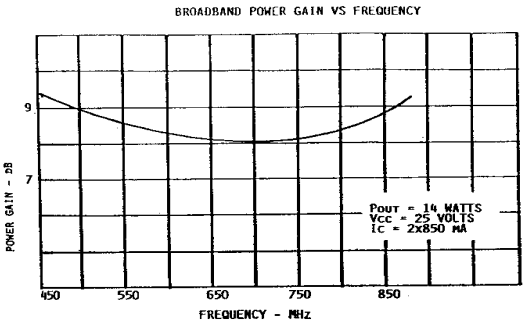
INTERMODULATION DISTORTION & CROSS MODULATION DISTORTION vs POWER OUTPUT



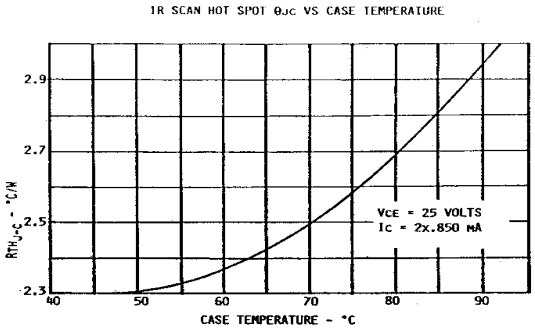
POWER OUTPUT vs POWER INPUT



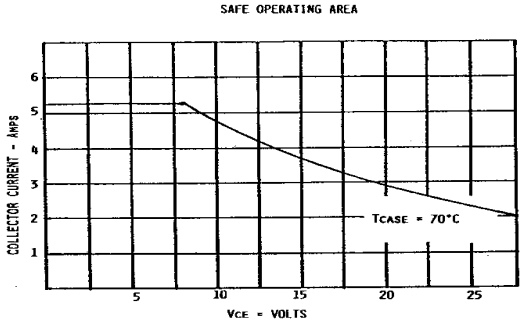
BROADBAND POWER GAIN vs FREQUENCY



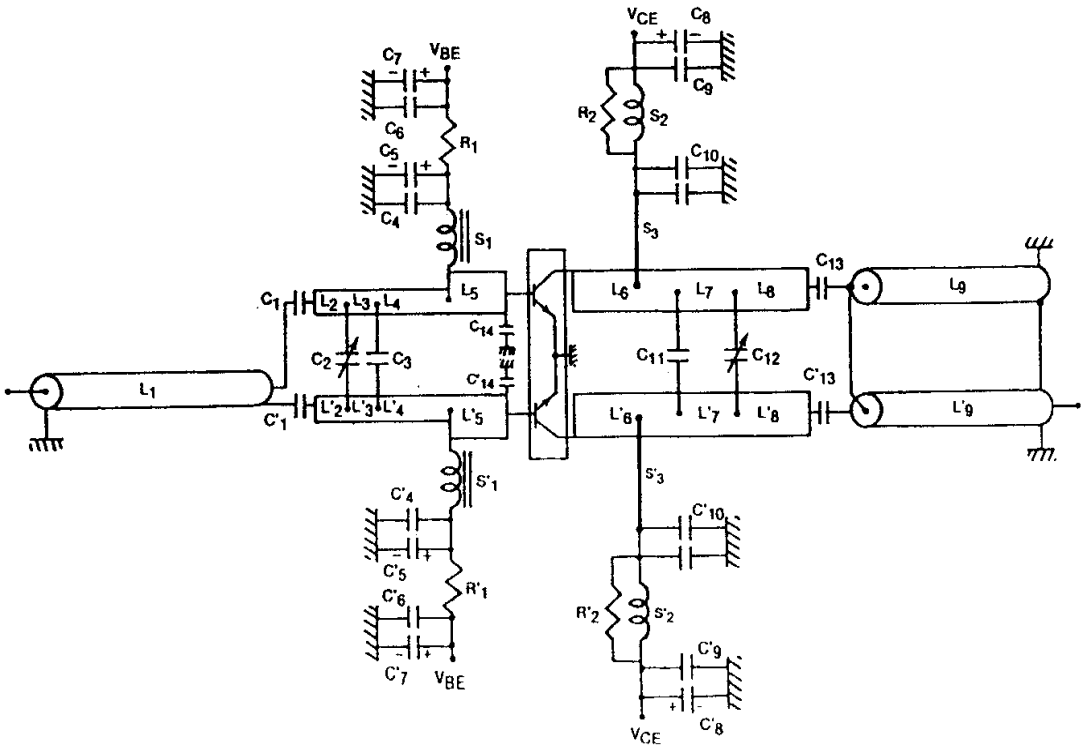
THERMAL RESISTANCE vs CASE TEMPERATURE



SAFE OPERATING AREA



TEST CIRCUIT



C1, C'1, C13, C'13 : 68pF, ATC 100A
C2 : 4.5pF Adjustable Johanson
C3 : 4.7pF, ATC 100A
C4, C'4, C6, C'6, C9, C'9, C10, C'10 : 100pF, ATC 100A + 1nF LCC Chip + 10nF LCC Chip
C5, C'5 : 4.7µF, 25V, Tantalum Capacitor
C7, C'7 : 10µF, 25V, Tantalum Capacitor
C8, C'8 : 22µF, 35V, Tantalum Capacitor
C11 : 4.7pf, ATC 100A
C12 : 8pF Adjustable Johanson
C14, C'14 : 22pF, ATC 100A

L1, L9, L'9: 50Ω Coaxial Wire Diameter 2.2mm, Length 29mm on 70Ω Transmission Line
L2, L'2 : 50Ω Printed Transmission Line Length 4mm
L3, L'3 : 50Ω Printed Transmission Line Length 3mm
L4, L'4 : 50Ω Printed Transmission Line Length 9.5mm
L5, L'5 : 39Ω Printed Transmission Line Length 7mm
L6, L'6 : 39Ω Printed Transmission Line Length 15mm
L7, L'7 : 39Ω Printed Transmission Line Length 8mm
L8, L'8 : 39Ω Printed Transmission Line Length 10mm

R1, R'1 : 4.7Ω, 1/2W
R2, R'2 : 1207Ω, 1/2W

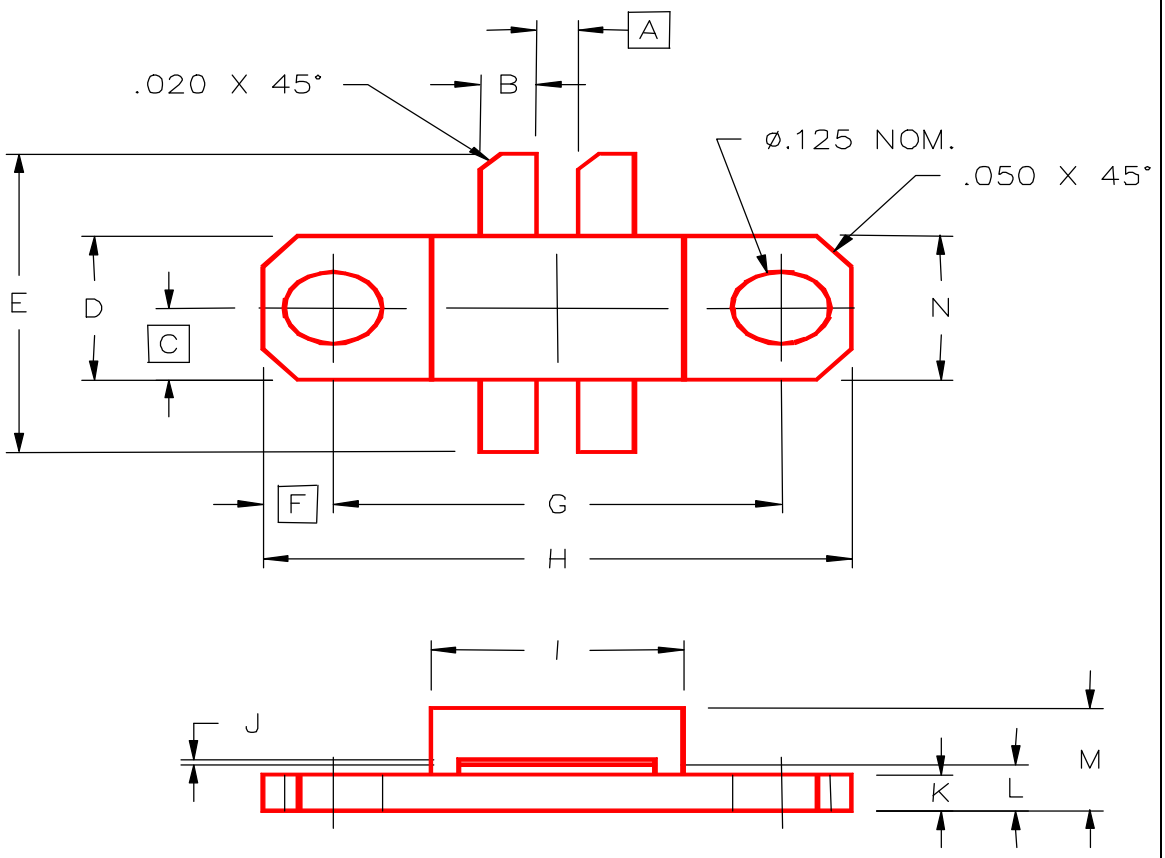
S1, S'1 : 470nH Molded
S2, S'2 : 5 Turns, Diameter Wire 0.5mm on 3mm I.D.
S3, S'3 : Diameter Wire 1.2mm, Length 12mm

Substrate: Teflon Glass 30Mils, Er = 2.55

MS1579

PACKAGE MECHANICAL DATA

PACKAGE STYLE M156



	MINIMUM INCHES/MM	MAXIMUM INCHES/MM		MINIMUM INCHES/MM	MAXIMUM INCHES/MM
A	.060/1,52		I	.315/8,00	.325/8,26
B	.055/1,40	.065/1,65	J	.002/0,05	.006/0,15
C	.124/3,15		K	.055/1,40	.065/1,65
D	.243/6,17	.253/6,43	L	.075/1,91	.095/2,41
E	.635/16,13	.665/16,89	M		.190/4,83
F	.092/2,34		N	.245/6,22	.255/6,48
G	.555/14,10	.565/14,35			
H	.739/18,77	.749/19,02			