

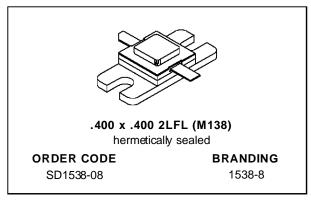
SD1538-08

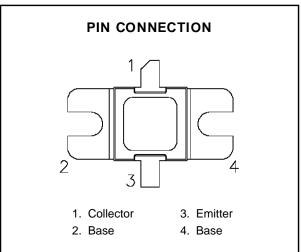
RF & MICROWAVE TRANSISTORS AVIONICS APPLICATIONS

- DESIGNED FOR HIGH POWER PULSE IFF, DME, AND TACAN APPLICATIONS
- 200 W (typ.) IFF 1030 1090 MHz
- 150 W (min.) DME 1025 1150 MHz
- 140 W (typ.) TACAN 960 1215 MHz
- 7.8 dB MIN. GAIN
- REFRACTORY GOLD METALLIZATION
- BALLASTING AND LOW THERMAL RESISTANCE FOR RELIABILITY AND RUGGEDNESS
- 30:1 LOAD VSWR CAPABILITY AT SPECIFIED OPERATING CONDITIONS
- INPUT AND OUTPUT MATCHED, COMMON BASE CONFIGURATION

DESCRIPTION

The SD1538-08 is a gold metallized, silicon NPN power transistor. The SD1538-08 is designed for applications requiring high peak power and low duty cycles such as IFF, DME and TACAN. The SD1538-08 is packaged in a metal/ceramic package with internal input/output matching, resulting in improved broadband performance and low thermal resistance.





ABSOLUTE MAXIMUM RATINGS $(T_{case} = 25^{\circ}C)$

Symbol	Parameter	Value	Unit	
VcBO	Collector-Base Voltage	65	V	
V _{CES}	Collector-Emitter Voltage	65		
V _{EBO}	Emitter-Base Voltage	3.5	V	
Ic	Device Current	11	А	
Poiss	Power Dissipation	583	W	
TJ	Junction Temperature	+200	°C	
T _{STG}	Storage Temperature	- 65 to +150	°C	

THERMAL DATA

R _{TH(j-c)} Junction-Case Thermal Resistance	0.30	°C/W
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SD1538-08

ELECTRICAL SPECIFICATIONS (Tcase = 25°C)

STATIC

Symbol	Test Conditions	Value			Unit		
		Min.	Тур.	Max.			
ВУсво	I _C = 10mA	$I_E = 0mA$		65	_	_	V
BVces	I _C = 25mA	V _{BE} = 0V		65	_	_	V
BV _{EBO}	I _E = 5mA	$I_C = 0mA$		3.5	_	_	V
I _{CES}	V _{CE} = 50V	$I_E = 0mA$		_		10	mA
hfE	V _{CE} = 5V	I _C = 300mA		5	_	_	_

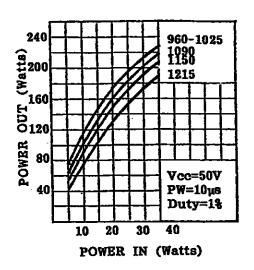
DYNAMIC

	Symbol	Test Conditions		Value			Unit
	Syllibol			Min.	Тур.	Max.	
	Роит	f = 1025 - 1150 MHz P _{IN} = 25 W V _{CE}	= 50 V	150	_	_	W
ſ	P_{G}	$f = 1025 - 1150 \text{ MHz}$ $P_{IN} = 25 \text{ W}$ V_{CE}	= 50 V	7.8			dB

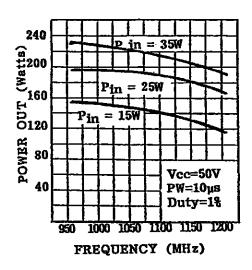
Note: Pulse Width = $10\mu Sec$, Duty Cyle = 1%

TYPICAL PERFORMANCE

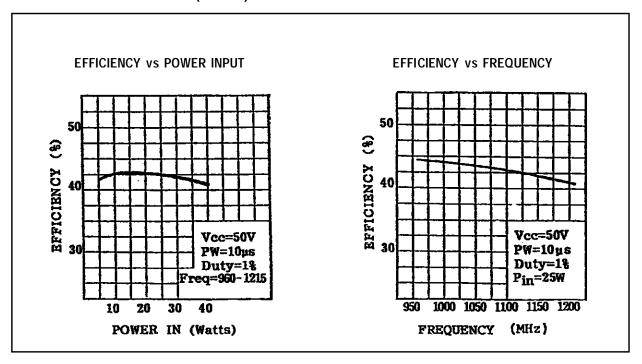
POWER OUTPUT vs POWER INPUT



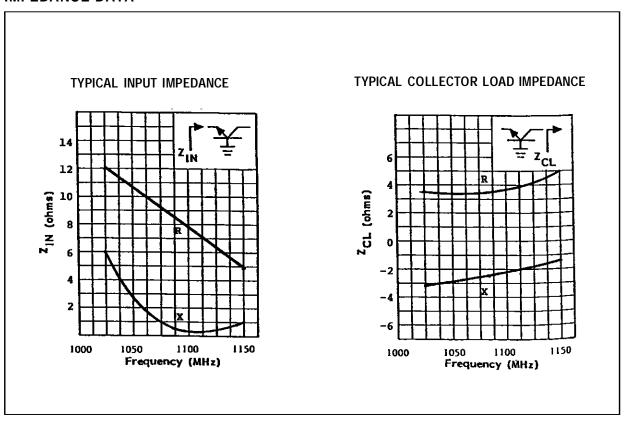
POWER OUTPUT vs FREQUENCY



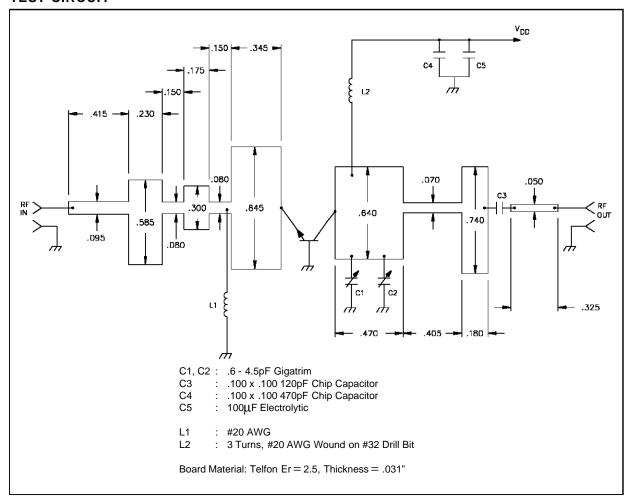
TYPICAL PERFORMANCE (cont'd)



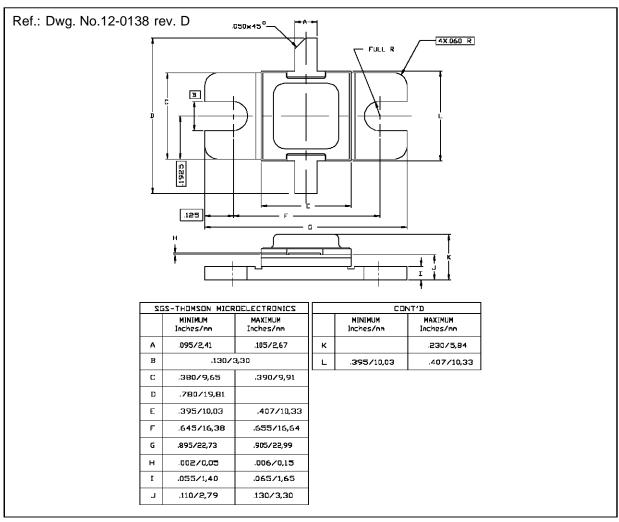
IMPEDANCE DATA



TEST CIRCUIT



PACKAGE MECHANICAL DATA



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