

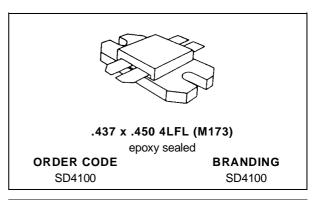
SD4100

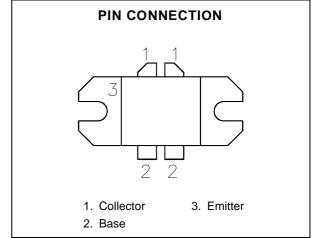
PRODUCT DEVELOPMENT DATA SHEET

This data sheet contains the design criteria and target specifications for a product which is currently under development by SGS-THOMSON. The design criteria and specifications of this item could change prior to introduction and SGS-THOMSON assumes no liability for use of information contained herein.

RF & MICROWAVE TRANSISTORS TV/LINEAR APPLICATIONS

- 470 860 MHz
- 28 VOLTS
- CLASS AB PUSH PULL
- DESIGNED FOR HIGH POWER LINEAR OPERATION
- HIGH SATURATED POWER CAPABILITY
- INTERNAL INPUT/OUTPUT MATCHING NETWORKS PROVIDE HIGH BALANCED IMPEDANCES FOR SIMPLIFIED CIRCUIT DESIGN AND WIDE INSTANTANEOUS BANDWIDTH
- GAIN = 8.5 dB MIN.
- P_{OUT} = 100 W MIN. CW
- P_{OUT} = 125 W PEAK SYNC.





DESCRIPTION

The SD4100 is a gold metallized epitaxial silicon NPN planar transistor using diffused emitter ballast resistors for high linearity Class AB operation in UHF and Band IV, V television transmitters and transposers.

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

	,		
Symbol Parameter		Value	Unit
V _{CBO}	Collector-Base Voltage	65	V
V _{CEO}	Collector-Emitter Voltage	30	V
V _{EBO}	Emitter-Base Voltage	3.5	V
Ic	Device Current	16	Α
Poiss	P _{DISS} Power Dissipation (+25°C)		W
T _J Junction Temperature		+200	°C
T _{STG}	Storage Temperature	- 65 to +150	°C

THERMAL DATA

R _{TH(j-c)}	Junction-Case Thermal Resistance	0.8	°C/W

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ELECTRICAL SPECIFICATIONS (T_{case} = 25°C)

STATIC

Symbol	Test Conditions		Value			Unit	
Symbol			Min.	Тур.	Max.	Oiiit	
BV _{CBO}	$I_C = 40 \text{ mA}$	$I_C = 40 \text{ mA}$ $I_E = 0 \text{ mA}$		65	_	_	V
BV _{CEO}	$I_C = 80 \text{ mA}$	$I_B = 0 \text{ mA}$		30	_	_	V
BV _{CER}	I_C = 120 mA R_{BE} = 75 Ω		40	_	_	V	
BV _{EBO}	$I_E = 20 \text{ mA}$ $I_C = 0 \text{ mA}$		3.5	_	_	V	
ICEO	$V_{CE} = 28 \text{ V}$ $I_{B} = 0 \text{ mA}$			_	10	mA	
hfE	V _{CE} = 5 V I _C = 4 A		25		120	_	

DYNAMIC

Symbol	Test Conditions	Value			Unit
Syllibol	rest conditions		Тур.	Max.	Onit
Сов	f = 1 MHz V _{CB} = 28 V (each side)	_	50	_	pF
	C _{OB} is not measurable due to Internal Output Matching				
	Network				

DYNAMIC (CW)

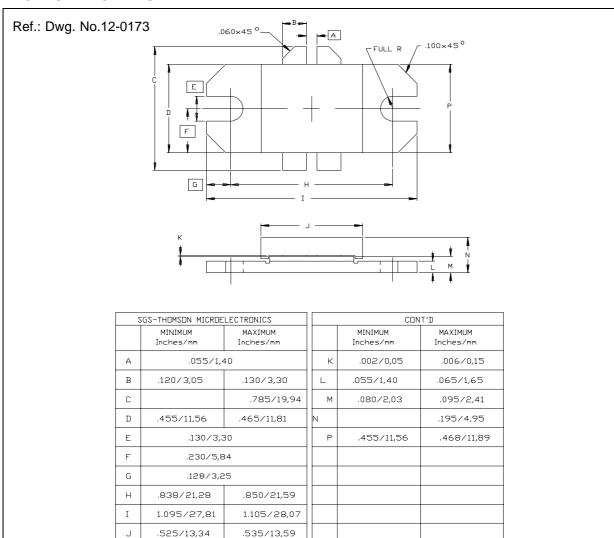
Symbol	Test Conditions			Value		Unit	
Symbol	Symbol Test Conditions				Тур.	Max.	Oiiit
P_{1dB}	f = 860 MHz	$P_{REF} = 25 \text{ W}$	$V_{CC} = 28 \text{ V}$ $I_{CQ} = 200 \text{ mA}$	100	_	_	W
G _P	f = 860 MHz	P _{OUT} = 100 W	$V_{CC} = 28 \text{ V } I_{CQ} = 200 \text{ mA}$	8.5			dB
ης	f = 860 MHz	P _{OUT} = 100 W	$V_{CC} = 28 \text{ V } I_{CQ} = 200 \text{ mA}$	55	_	_	%

DYNAMIC (Video) (Standard Black Level)

Symbol	Test Conditions				Value		Unit
Symbol	Symbol rest Conditions				Тур.	Max.	
G_P	f = 860 MHz	P _{OUT} = 125 W	$V_{CC} = 28 \text{ V } I_{CQ} = 200 \text{ m}$	A 8.5	_	_	dB
P _{1dB}	f = 860 MHz	P _{REF} = 25 W	$V_{CC} = 28 \text{ V } I_{CQ} = 200 \text{ m}$	A 125	_		W
P _{1dB}	f = 860 MHz	P _{REF} = 25 W	$V_{CC} = 32 \text{ V } I_{CQ} = 100 \text{ m}$	A 150	_	_	W



PACKAGE MECHANICAL DATA



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