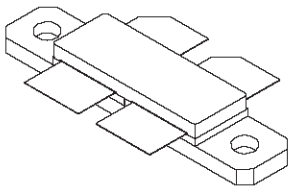
SD56120

RF POWER TRANSISTORS
The *LdmoST* FAMILY

TARGET DATA

N-CHANNEL ENHANCEMENT-MODE LATERAL MOSFETs

- EXCELLENT THERMAL STABILITY
- COMMON SOURCE CONFIGURATION, PUSH-PULL
- P_{OUT} = 100 W PEP WITH 13 dB GAIN @ 860 MHz
- BeO FREE PACKAGE



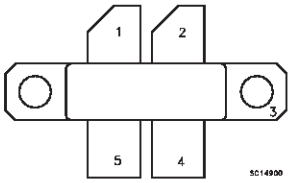
M246
epoxy sealed

ORDER CODE	BRANDING
SD56120	XSD56120

DESCRIPTION

The SD56120 is a common source N-Channel enhancement-mode lateral Field-Effect RF power transistor designed for broadband commercial and industrial applications at frequencies up to 1.0 GHz. The SD56120 is designed for high gain and broadband performance operating in common source mode at 28V. It is ideal for broadcast applications from 470 to 860 MHz requiring high linearity.

PIN CONNECTION



1. Drain
2. Drain
3. Source
4. Gate
5. Gate

ABSOLUTE MAXIMUM RATINGS (T_{case} = 25 °C)

Symbol	Parameter	Value	Unit
$V_{(BR)DSS}$	Drain Source Voltage	65	V
V_{GS}	Gate-Source Voltage	± 20	V
I_D	Drain Current	14	A
P_{DISS}	Power Dissipation (@ Tc= 70°C)	260	W
T_j	Max. Operating Junction Temperature	200	°C
T_{STG}	Storage Temperature	-65 to 150	°C

THERMAL DATA

$R_{th(j-c)}$	Junction-Case Thermal Resistance	0.5	°C/W

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

STATIC (Per Section)

Symbol	Parameter			Min.	Typ.	Max.	Unit
$V_{(BR)DSS}$	V_{GS} = 0V	I_{DS} = 10 mA		65			V
I_{DSS}	V_{GS} = 0V	V_{DS} = 28 V				1	µA
I_{GSS}	V_{GS} = 20V	V_{DS} = 0 V				1	µA
$V_{GS(Q)}$	V_{DS} = 28V	I_D = 100 mA		3.0		5.0	V
$V_{DS(ON)}$	V_{GS} = 10V	I_D = 3 A			0.7	0.8	V
G_{FS}	V_{DS} = 10V	I_D = 3 A			3		mho
C_{ISS}	V_{GS} = 0V	V_{DS} = 28 V	f = 1 MHz		88		pF
C_{OSS}	V_{GS} = 0V	V_{DS} = 28 V	f = 1 MHz		44		pF
C_{RSS}	V_{GS} = 0V	V_{DS} = 28 V	f = 1 MHz		1.7		pF

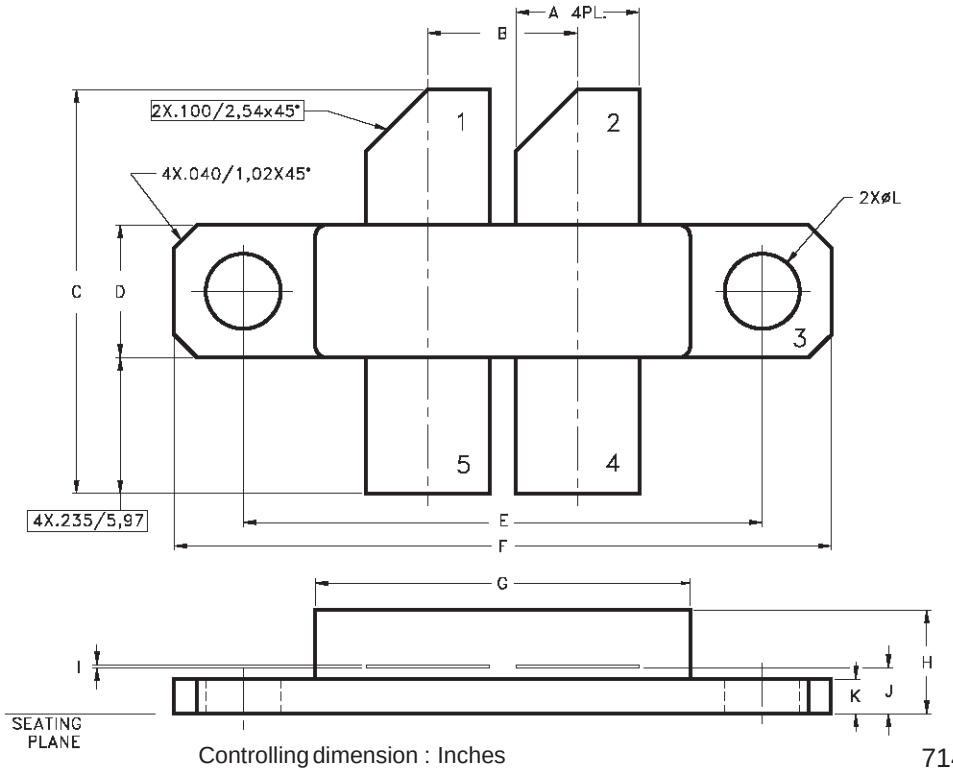
DYNAMIC

Symbol	Parameter			Min.	Typ.	Max.	Unit
P_{OUT}	V_{DD} = 28V	f = 860 MHz	I_{DQ} = 400 mA	100			W
G_{PS}	V_{DD} = 28 V	P_{out} = 100W PEP	I_{DQ} = 400 mA	13			dB
η_D	V_{DD} = 28 V	P_{out} = 100W PEP	I_{DQ} = 400 mA	30	36		%
IMD	V_{DD} = 28 V	P_{out} = 100W PEP	I_{DQ} = 400 mA		31		dB
Load Mismatch	f = 860 MHz I_{DQ} = 400 mA	V_{DD} = 28 V ALL PHASE ANGLES	P_{out} = 100W PEP	5:1			VSWR

Note : f_1 = 860 MHz
f_2 = 860.1 MHz

M246 (.230 x .650 WIDE 4/L BAL N/HERM W/FLG) MECHANICAL DATA

DIM.	mm			inch		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
A	5.33		5.59	0.210		0.220
B	6.48		6.73	0.255		0.265
C	17.27		18.29	0.680		0.720
D	5.72		5.97	0.225		0.235
E		22.86			0.900	
F	28.83		29.08	1.135		1.145
G	16.26		16.76	0.640		0.660
H	4.19		5.08	0.165		0.200
I	0.08		0.15	0.003		0.006
J	1.83		2.24	0.072		0.088
K	1.40		1.65	0.055		0.065
L	3.18		3.43	0.125		0.135



Controlling dimension : Inches

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