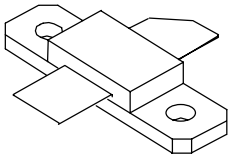
SD57045

RF & MICROWAVE TRANSISTORS
N-Channel Enhancement-Mode Lateral MOSFETs

TARGET DATA

- EXCELLENT THERMAL STABILITY
- COMMON SOURCE CONFIGURATION
- P_{OUT} = 45 W PEP with 13 dB gain @ 945 MHz
- BeO FREE PACKAGE



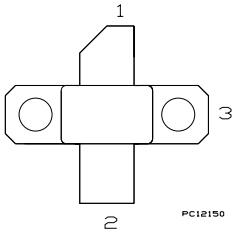
.230 2LFL (M243)
epoxy sealed

ORDER CODE	BRANDING
SD57045	SD57045

DESCRIPTION

The SD57045 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 SD57045 is designed for high gain and broadband performance operating in common source mode at 28V. It is ideal for base stations applications requiring high linearity.

PIN CONNECTION



1. Drain 3.Source
2. Gate

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

Symbol	Parameter	Value	Unit
$V_{(BR)DSS}$	Drain Source Voltage	65	V
V_{DGR}	Drain-Gate Voltage (R_{GS} = 1 MΩ)	65	V
V_{GS}	Gate-Source Voltage	± 20	V
I_D	Drain Current	5	A
P_{DISS}	Power Dissipation (@ Tc= 70 °C)	93	W
T_j	Max. Operating Junction Temperature	200	°C
T_{STG}	Storage Temperature	-65 to 200	°C

THERMAL DATA

$R_{th(j-c)}$	Junction-Case Thermal Resistance	1.4	°C/W

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

STATIC

Symbol	Parameter			Min.	Typ.	Max.	Unit
$V_{(BR)DSS}$	V_{GS} = 0V	I_{DS} = 1 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 = 250 mA		2.5		5.0	V
$V_{DS(ON)}$	V_{GS} = 10V	I_D = 3 A			0.7		V
G_{FS}	V_{DS} = 10V	I_D = 5 A			2.7		mho
C_{ISS}	V_{GS} = 0V	V_{DS} = 28 V	f = 1 MHz		80		pF
C_{OSS}	V_{GS} = 0V	V_{DS} = 28 V	f = 1 MHz		40		pF
C_{RSS}	V_{GS} = 0V	V_{DS} = 28 V	f = 1 MHz		3.2		pF

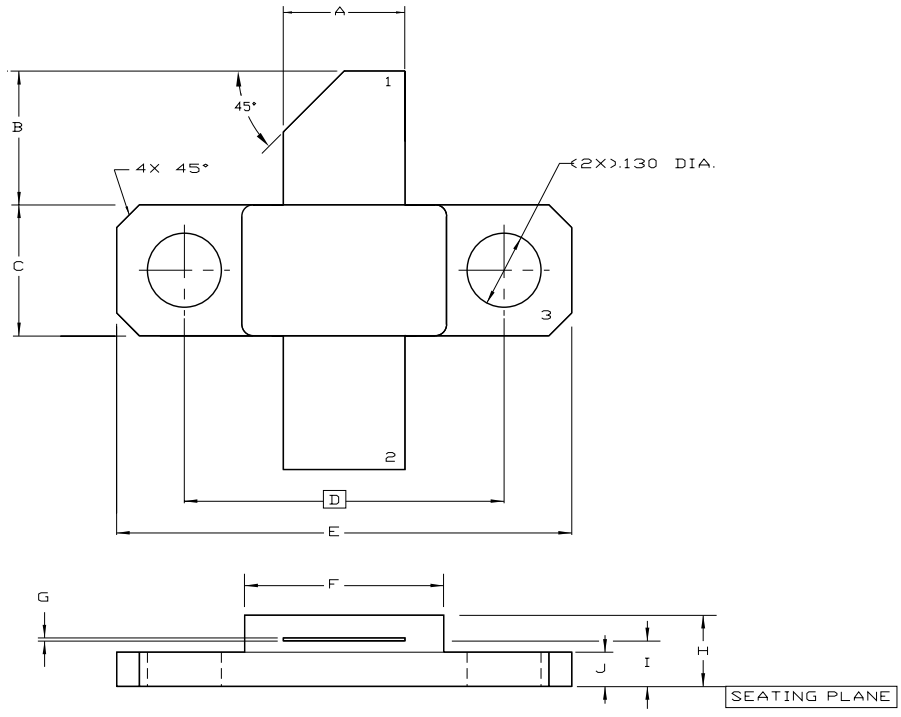
DYNAMIC

Symbol	Parameter				Min.	Typ.	Max.	Unit
P_{OUT}	f = 945 MHz	V_{DD} = 28V	I_{DQ} = 250 mA		45			W
IMD_3	V_{DD} = 28 V	P_{out} = 45 W PEP	I_{DQ} = 250 mA			-32	-28	dBc
G_{PS}	V_{DD} = 28 V	P_{out} = 45 W PEP	I_{DQ} = 250 mA		13	15		dB
η_D	V_{DD} = 28 V	P_{out} = 45 W PEP	I_{DQ} = 250 mA		33	40		%
Load Mismatch	f = 945 MHz V_{DD} = 28 V P_{out} = 45 W I_{DQ} = 250 mA ALL PHASE ANGLES				5:1			VSWR

Note: f_1 = 945.0 MHz
f_2 = 945.1 MHz

M243 MECHANICAL DATA

DIM.	mm			inch		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
A	5.21		5.72	0.205		0.225
B	5.46		6.48	0.215		0.255
C	5.59		6.10	0.220		0.240
D		14.27			0.562	
E	20.07		20.57	0.790		0.810
F	8.89		9.40	0.350		0.370
G	0.10		0.15	0.004		0.006
H	3.18		4.45	0.125		0.175
I	1.78		2.29	0.070		0.090
J	1.27		1.78	0.050		0.070



Controlling Dimension: Inches

1022142A