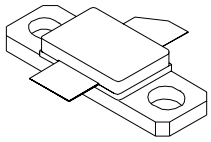
SD60030

RF POWER TRANSISTORS
The LdmoST FAMILY

TARGET DATA

Designed for GSM / EDGE / IS-97 applications

- EXCELLENT THERMAL STABILITY
- COMMON SOURCE CONFIGURATION
- P_{OUT} = 30 W with 10 dB gain @ 2000 MHz



M243
epoxy sealed

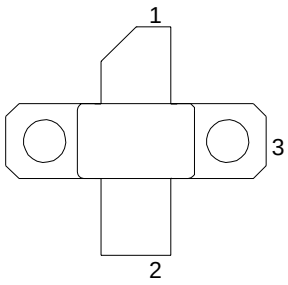
ORDER CODE
SD60030

BRANDING
SD60030

DESCRIPTION

The SD60030 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 2.0 GHz. The SD60030 is designed for high gain and broadband performance operating in common source mode at 26 V. It is ideal for base station applications requiring high linearity.

PIN CONNECTION



1. Drain
2. Gate
3. Source

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	TBD	A
P_{DISS}	Power Dissipation (@ Tc = 70 °C)	TBD	W
Tj	Max. Operating Junction Temperature	200	°C
T_{STG}	Storage Temperature	-65 to +200	°C

THERMAL DATA (T_{CASE} = 70 °C)

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

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

STATIC

Symbol	Test Conditions			Min.	Typ.	Max.	Unit
$V_{(BR)DSS}$	V_{GS} = 0 V	I_{DS} = 1 mA		65			V
I_{DSS}	V_{GS} = 0 V	V_{DS} = 28 V				1	µA
I_{GSS}	V_{GS} = 20 V	V_{DS} = 0 V				1	µA
$V_{GS(Q)}$	V_{DS} = 28 V	I_D = 300 mA		2.5		5.0	V
$V_{DS(ON)}$	V_{GS} = 10 V	I_D = 3 A			TBD		V
G_{FS}	V_{DS} = 10 V	I_D = 3 A		2.0	TBD		mho
C_{ISS}	V_{GS} = 0 V	V_{DS} = 28 V	f = 1 MHz		TBD		pF
C_{OSS}	V_{GS} = 0 V	V_{DS} = 28 V	f = 1 MHz		TBD		pF
C_{RSS}	V_{GS} = 0 V	V_{DS} = 28 V	f = 1 MHz		TBD		pF

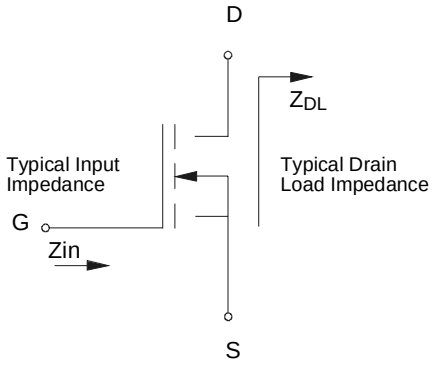
DYNAMIC

Symbol	Test Conditions				Min.	Typ.	Max.	Unit
P_{out}	V_{DD} = 26 V	I_{DQ} = 300 mA		f = 2000 MHz	30			W
IMD3	V_{DD} = 26 V	I_{DQ} = 300 mA	P_{OUT} = 30 W PEP			-32	-28	dBc
G_{PS}	V_{DD} = 26 V	I_{DQ} = 300 mA	P_{OUT} = 30 W PEP		10	11		dB
η_D	V_{DD} = 26 V	I_{DQ} = 300 mA	P_{OUT} = 30 W PEP			35		%
Load mismatch	V_{DD} = 26 V ALL PHASE ANGLES	I_{DQ} = 300 mA	P_{OUT} = 30 W	f = 2000 MHz	10:1			VSWR

note: f_1 = 2000 MHz

PEP f_2 = 2000.1 MHz

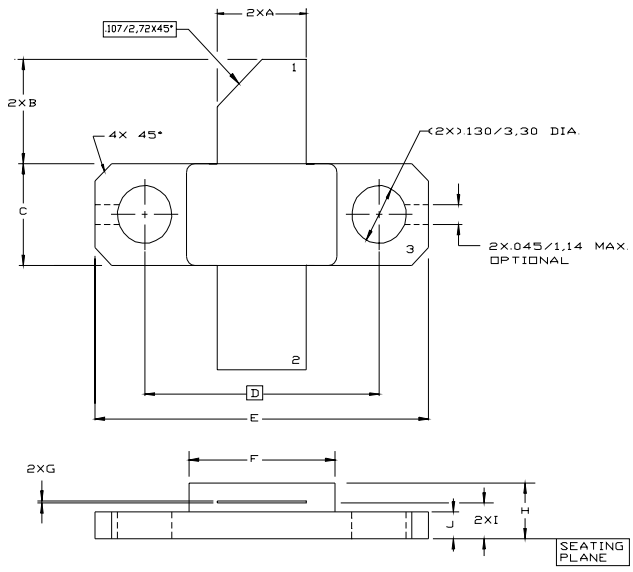
IMPEDANCE DATA



FREQ. MHz	Z_{IN} (Ω)	Z_{DL}(Ω)
1800		
1850		
1900		
1950		
2000		

M243 (.230 x .360 2L N/HERM W/FLG) 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	1.83		2.24	0.072		0.088
J	1.27		1.78	0.050		0.070



Controlling dimension: Inches

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