



SD57060

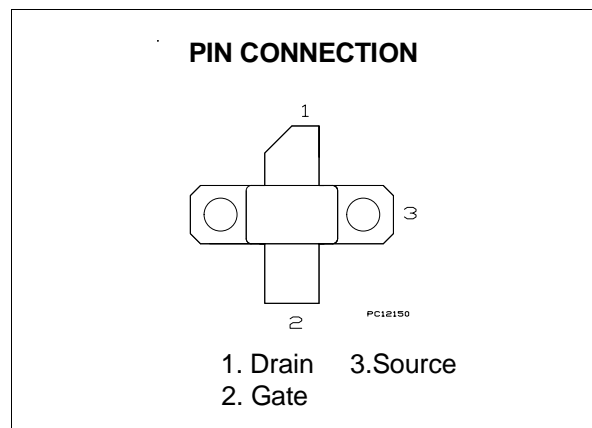
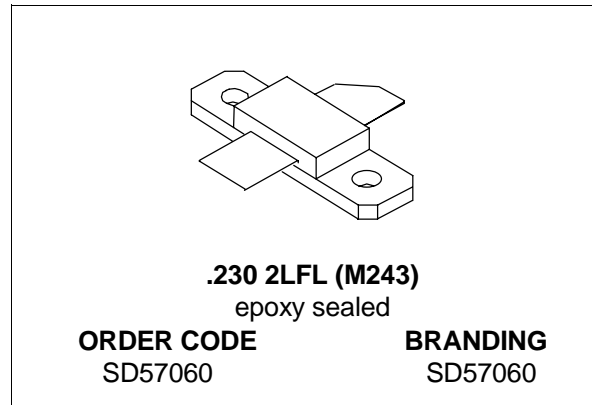
RF & MICROWAVE TRANSISTORS N-Channel Enhancement-Mode Lateral MOSFETs

TARGET DATA

- EXCELLENT THERMAL STABILITY
- COMMON SOURCE CONFIGURATION
- $P_{OUT} = 60\text{ W}$ with 11.5 dB gain @ 945 MHz
- BeO FREE PACKAGE

DESCRIPTION

The SD57060 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 SD57060 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.



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

Symbol	Parameter	Value	Unit
$V_{(BR)DSS}$	Drain Source Voltage	65	V
V_{GS}	Gate-Source Voltage	± 20	V
I_D	Drain Current	7	A
P_{DISS}	Power Dissipation (@ $T_c = 70^{\circ}\text{C}$)	130	W
T_j	Max. Operating Junction Temperature	200	$^{\circ}\text{C}$
T_{STG}	Storage Temperature	-65 to 150	$^{\circ}\text{C}$

THERMAL DATA

$R_{th(j-c)}$	Junction-Case Thermal Resistance	1.0	$^{\circ}\text{C/W}$
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ELECTRICAL SPECIFICATION ($T_{\text{case}} = 25\text{ }^{\circ}\text{C}$)

STATIC

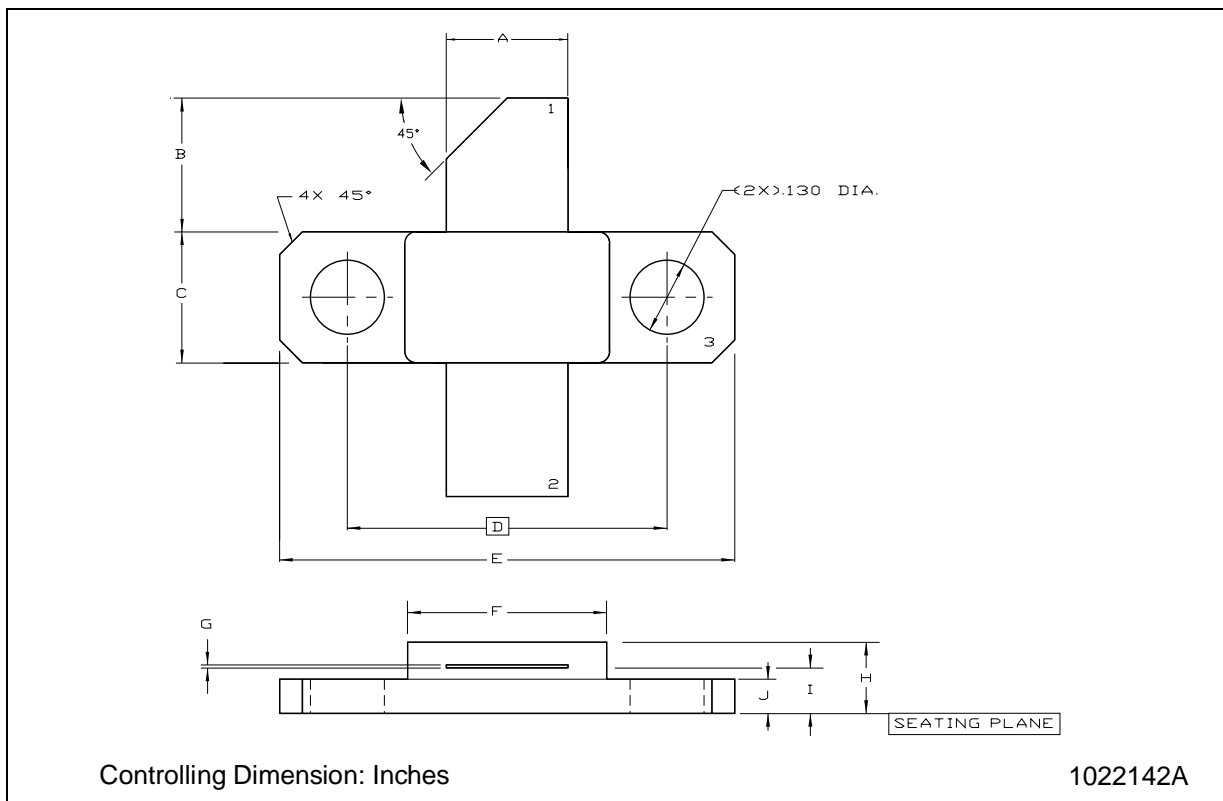
Symbol	Parameter			Min.	Typ.	Max.	Unit
$V_{(\text{BR})\text{DSS}}$	$V_{\text{GS}} = 0\text{V}$	$I_{\text{DS}} = 1\text{ mA}$		65			V
I_{DSS}	$V_{\text{GS}} = 0\text{V}$	$V_{\text{DS}} = 28\text{ V}$				1	μA
I_{GSS}	$V_{\text{GS}} = 20\text{V}$	$V_{\text{DS}} = 0\text{ V}$				1	μA
$V_{\text{GS(Q)}}$	$V_{\text{DS}} = 28\text{V}$	$I_{\text{D}} = 100\text{ mA}$		2.5		5.0	V
$V_{\text{DS(ON)}}$	$V_{\text{GS}} = 10\text{V}$	$I_{\text{D}} = 3\text{ A}$			0.7		V
G_{FS}	$V_{\text{DS}} = 10\text{V}$	$I_{\text{D}} = 3\text{ A}$		2.2	3		mho
C_{ISS}	$V_{\text{GS}} = 0\text{V}$	$V_{\text{DS}} = 28\text{ V}$	$f = 1\text{ MHz}$		83		pF
C_{OSS}	$V_{\text{GS}} = 0\text{V}$	$V_{\text{DS}} = 28\text{ V}$	$f = 1\text{ MHz}$		44		pF
C_{RSS}	$V_{\text{GS}} = 0\text{V}$	$V_{\text{DS}} = 28\text{ V}$	$f = 1\text{ MHz}$		4.0		pF

DYNAMIC

Symbol	Parameter				Min.	Typ.	Max.	Unit
P_{OUT}	$f = 945\text{ MHz}$	$V_{\text{DD}} = 28\text{V}$	$I_{\text{DQ}} = 100\text{ mA}$		60			W
G_{PS}	$f = 945\text{ MHz}$	$V_{\text{DD}} = 28\text{ V}$	$P_{\text{out}} = 60\text{ W}$	$I_{\text{DQ}} = 100\text{ mA}$	11.5	15		dB
η_{D}	$f = 945\text{ MHz}$	$V_{\text{DD}} = 28\text{ V}$	$P_{\text{out}} = 60\text{ W}$	$I_{\text{DQ}} = 100\text{ mA}$	53	60		%
Load Mismatch	$f = 945\text{ MHz}$	$V_{\text{DD}} = 28\text{ V}$	$P_{\text{out}} = 60\text{ W}$	$I_{\text{DQ}} = 100\text{ mA}$	5:1			VSWR
	ALL PHASE ANGLES							

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



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