



PD57002-01

RF POWER TRANSISTORS The *LdmoST* Plastic FAMILY

TARGET DATA

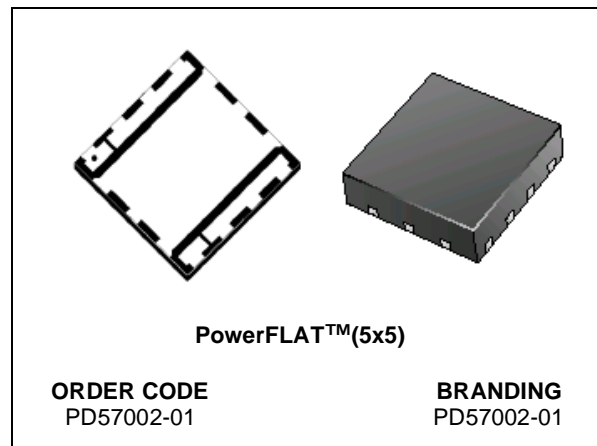
N-CHANNEL ENHANCEMENT-MODE LATERAL MOSFETs

- EXCELLENT THERMAL STABILITY
- COMMON SOURCE CONFIGURATION
- $P_{OUT} = 2\text{ W}$ with 15 dB gain @ 960 MHz / 28 V
- NEW LEADLESS PLASTIC PACKAGE

DESCRIPTION

The PD57002-01 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 1000 MHz. The PD57002-01 is designed for high gain and broadband performance operating in common source mode at 28 V. PD57002-01 boasts the excellent gain, linearity and reliability of ST's latest LDMOS technology mounted in the innovative leadless SMD plastic package, PowerFLAT™.

It is ideal for digital cellular BTS applications requiring high linearity.



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

Symbol	Parameter	Value	Unit
$V_{(BR)DSS}$	Drain-Source Voltage	65	V
V_{GS}	Gate-Source Voltage	± 20	V
I_D	Drain Current	0.25	A
P_{DISS}	Power Dissipation (@ $T_c = 70^{\circ}\text{C}$)	TBD	W
T_J	Max. Operating Junction Temperature	150	$^{\circ}\text{C}$
T_{STG}	Storage Temperature	-65 to +150	$^{\circ}\text{C}$

THERMAL DATA

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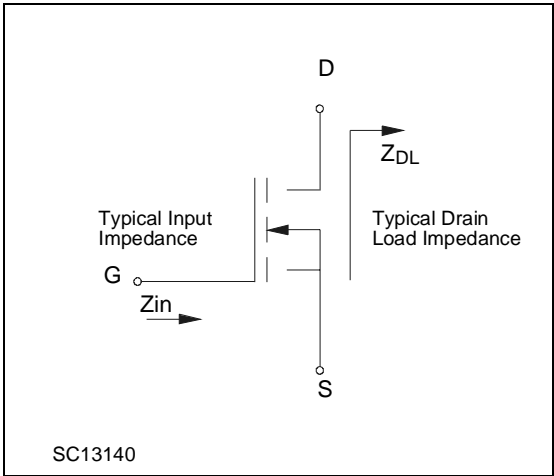
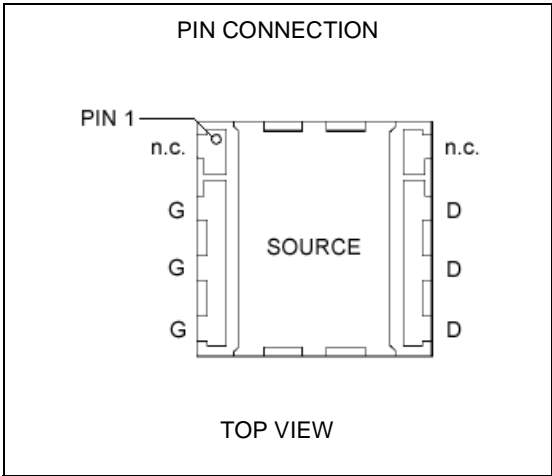
ELECTRICAL SPECIFICATION (T_{CASE} = 25 °C)

STATIC

Symbol	Test Conditions		Min.	Typ.	Max.	Unit
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 = 10 mA	2.0		5.0	V
V _{DS(ON)}	V _{GS} = 10 V	I _D = 125 mA		0.7	0.9	V
g _{FS}	V _{DS} = 10 V	I _D = 200 mA		--		mho
C _{ISS}	V _{GS} = 0 V	V _{DS} = 28 V	f = 1 MHz		7.1	pF
C _{OSS}	V _{GS} = 0 V	V _{DS} = 28 V	f = 1 MHz		5.8	pF
C _{RSS}	V _{GS} = 0 V	V _{DS} = 28 V	f = 1 MHz		0.1	pF

DYNAMIC

Symbol	Test Conditions				Min.	Typ.	Max.	Unit
P _{1dB}	V _{DD} = 28 V	I _{DQ} = 10 mA	f = 960 MHz		2			W
G _P	V _{DD} = 28 V	I _{DQ} = 10 mA	P _{OUT} = 2 W	f = 960 MHz	15			dB
η _D	V _{DD} = 28 V	I _{DQ} = 10 mA	P _{OUT} = 2 W	f = 960 MHz	45			%
Load mismatch	V _{DD} = 28 V	I _{DQ} = 10 mA	P _{OUT} = 2 W	f = 960 MHz	10:1			VSWR
	ALL PHASE ANGLES							



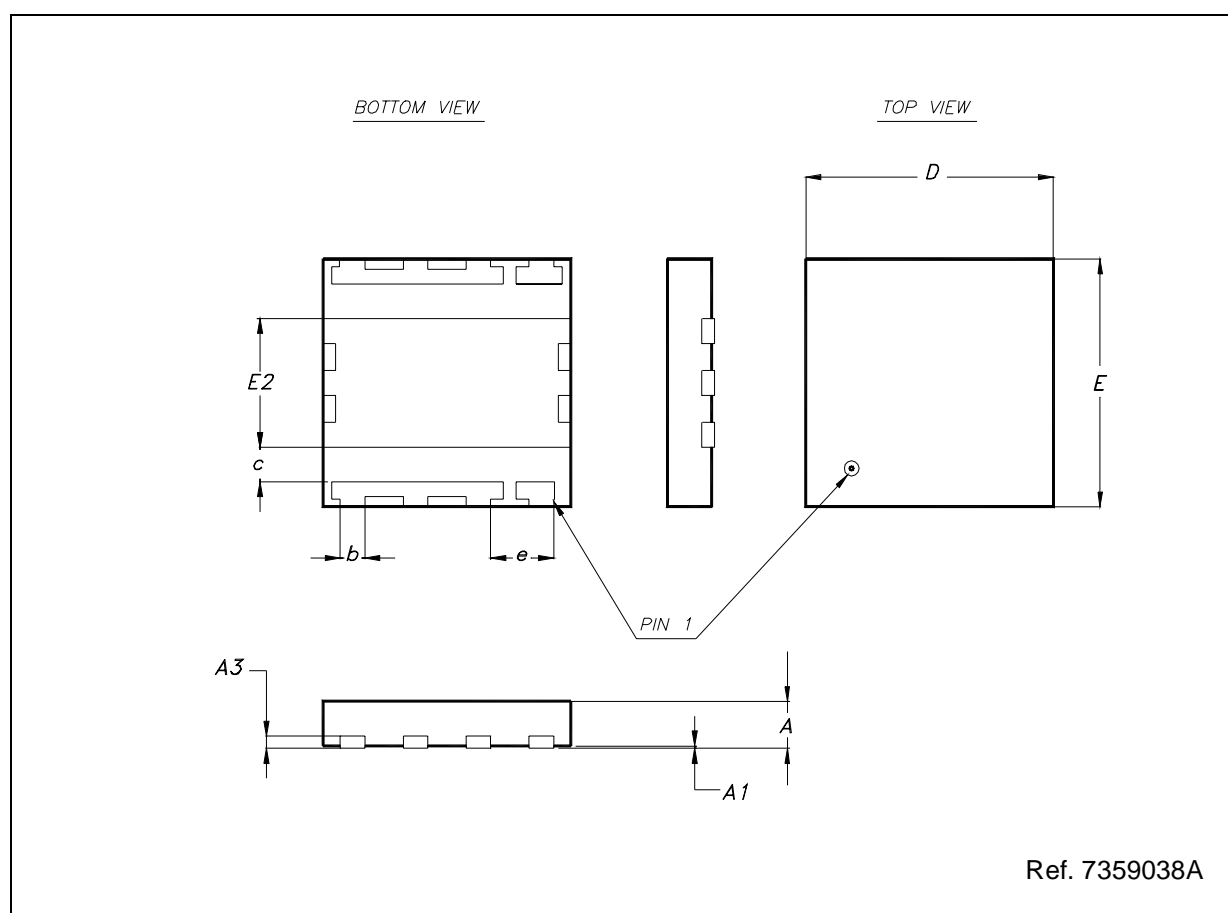
IMPEDANCE DATA

PD57002S

FREQ. MHz	Z _{IN} (Ω)	Z _{DL} (Ω)
925	TBD	TBD
945	TBD	TBD
960	TBD	TBD

PowerFLAT™ MECHANICAL DATA

DIM.	mm			Inch		
	MIN.	TYP.	MAX	MIN.	TYP.	MAX
A		0.90	1.00		0.035	0.039
A1		0.02	0.05		0.001	0.002
A3		0.24			0.009	
b	0.43	0.51	0.58	0.017	0.020	0.023
c	0.64	0.71	0.79	0.025	0.028	0.031
D		5.00			0.197	
E		5.00			0.197	
E2	2.49	2.57	2.64	0.098	0.101	0.104
e		1.27			0.050	



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