

PD57002-01

RF POWER TRANSISTORS The LdmoST Plastic FAMILY

TARGET DATA

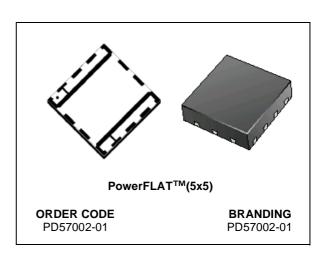
N-CHANNEL ENHANCEMENT-MODE LATERAL MOSFETs

- EXCELLENT THERMAL STABILITY
- COMMON SOURCE CONFIGURATION
- P_{OUT} = 2 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 °C)

Symbol	Parameter	Value	Unit
V _{(BR)DSS}	Drain-Source Voltage	65	V
V _{GS}	Gate-Source Voltage	± 20	V
ID	Drain Current	0.25	Α
P _{DISS}	Power Dissipation (@ Tc = 70°C)	TBD	W
Tj	Max. Operating Junction Temperature	150	°C
T _{STG}	Storage Temperature	-65 to +150	°C

THERMAL DATA

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

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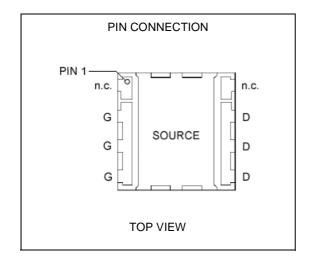
ELECTRICAL SPECIFICATION (T_{CASE} = 25 °C)

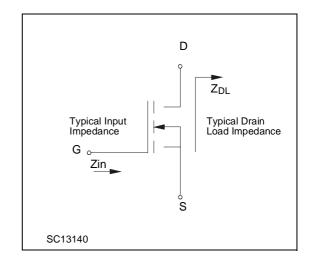
STATIC

Symbol		Test Condition	ons	Min.	Тур.	Max.	Unit
I _{DSS}	V _{GS} = 0 V	$V_{DS} = 28 V$				1	μΑ
I _{GSS}	V _{GS} = 20 V	V _{DS} = 0 V				1	μΑ
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
Coss	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.	Тур.	Max.	Unit
P _{1dB}	$V_{DD} = 28 \text{ V}$ $I_{DQ} = 10 \text{ mA}$ $f = 960 \text{ MHz}$	2			W
G _P	$V_{DD} = 28 \text{ V}$ $I_{DQ} = 10 \text{ mA}$ $P_{OUT} = 2 \text{ W}$ $f = 960 \text{ MHz}$	15			dB
η _D	$V_{DD} = 28 \text{ V}$ $I_{DQ} = 10 \text{ mA}$ $P_{OUT} = 2 \text{ W}$ $f = 960 \text{ MHz}$	45			%
Load mismatch	V_{DD} = 28 V I_{DQ} = 10 mA P_{OUT} = 2 W f = 960 MHz ALL PHASE ANGLES	10:1			VSWR





IMPEDANCE DATA

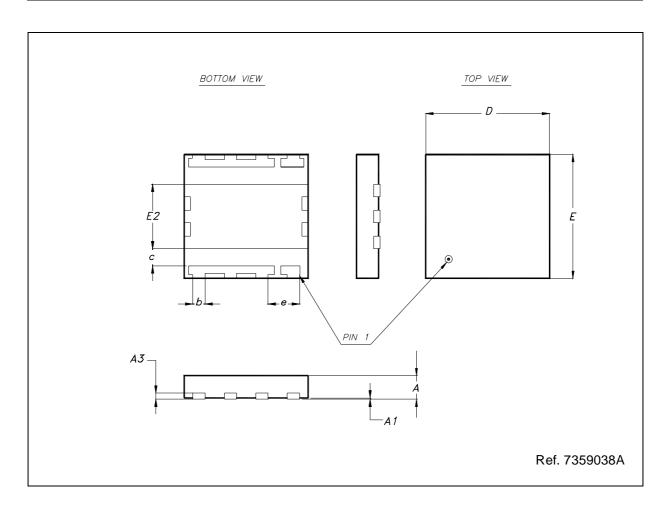
PD57002S

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

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PowerFLAT[™] MECHANICAL DATA

	mm			Inch		
DIM.	MIN.	TYP.	MAX	MIN.	TYP.	MAX
Α		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
С	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
е		1.27			0.050	



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