PD57060S

RF POWER TRANSISTORS
The *LdmoST* Plastic FAMILY

TARGET DATA

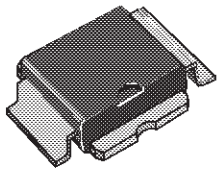
N-CHANNEL ENHANCEMENT-MODE LATERAL MOSFETs

- EXCELLENT THERMAL STABILITY
- COMMON SOURCE CONFIGURATION
- P_{OUT} = 60 W with 13 dB gain @ 945 MHz / 28V
- NEW RF PLASTIC PACKAGE

DESCRIPTION

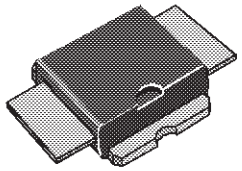
The PD57060S is a common source N-Channel, enhancement-mode lateral Field-Effect RF power transistor. It is designed for high gain, broad band commercial and industrial applications. It operates at 28 V in common source mode at frequencies of up to 1 GHz. PD57060S boasts the excellent gain, linearity and reliability of ST's latest LDMOS technology mounted in the first true SMD plastic RF power package, PowerSO-10RF. PD57060S's superior linearity performance makes it an ideal solution for base station applications.

The PowerSO-10 plastic package, designed to offer high reliability, is the first ST JEDEC approved, high power SMD package. It has been specially optmized for RF needs and offers excellent RF performances and ease of assembly.



PowerSO-10RF
(formed lead)

ORDER CODE	BRANDING
PD57060	XPD57060



PowerSO-10RF
(Straight lead)

ORDER CODE	BRANDING
PD57060S	XPD57060S

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
I_D	Drain Current	7	A
P_{DISS}	Power Dissipation (@ Tc = 70°C)	108	W
Tj	Max. Operating Junction Temperature	200	°C
T_{STG}	Storage Temperature	-65 to +150	°C

THERMAL DATA

$R_{th(j-c)}$	Junction -Case Thermal Resistance	1.2	°C/W

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

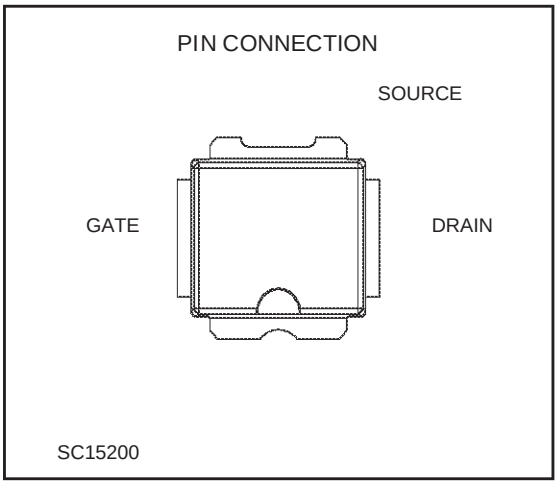
STATIC (Per Section)

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 = 100 mA		2.0		5.0	V
$V_{DS(ON)}$	V_{GS} = 10 V	I_D = 3 A			0.7	0.8	V
G_{FS}	V_{DS} = 10 V	I_D = 3 A		2.5			mho
C_{ISS}*	V_{GS} = 0 V	V_{DS} = 28 V	f = 1 MHz		88		pF
C_{OSS}	V_{GS} = 0 V	V_{DS} = 28 V	f = 1 MHz		44		pF
C_{RSS}	V_{GS} = 0 V	V_{DS} = 28 V	f = 1 MHz		1.7		pF

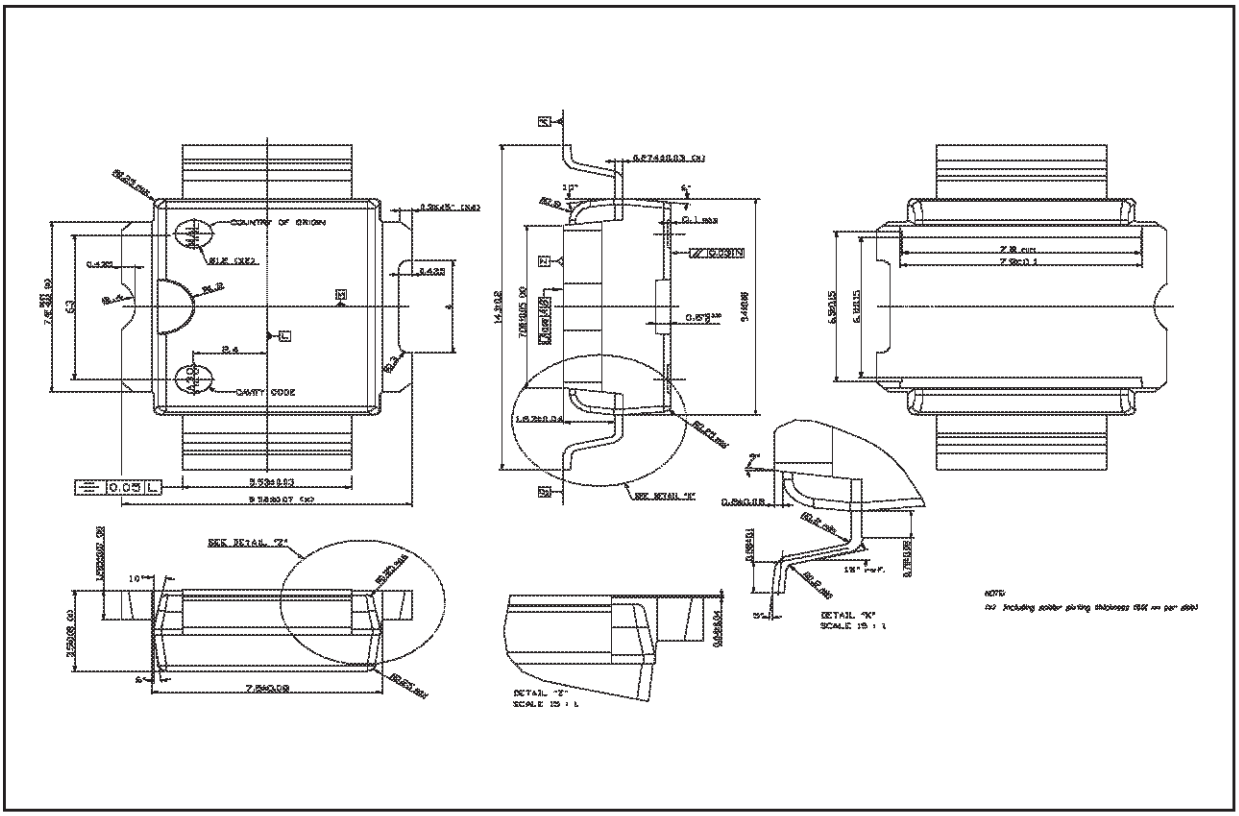
Ref. 7143417B

DYNAMIC

Symbol	Test Conditions				Min.	Typ.	Max.	Unit
P_{OUT}	V_{DD} = 28 V	I_{DQ} = 100 mA		f = 945 MHz	60			W
G_{PS}	V_{DD} = 28 V	I_{DQ} = 100 mA	P_{OUT} = 60 W	f = 945 MHz	13			dB
η_D	V_{DD} = 28 V	I_{DQ} = 100 mA	P_{OUT} = 60 W	f = 945 MHz	53			%
Load mismatch	V_{DD} = 28 V ALL PHASE ANGLES	I_{DQ} = 100 mA	P_{OUT} = 60 W	f = 945 MHz	5:1			VSWR



PowerSO-10RF (Formed Lead) MECHANICAL DATA



PowerSO-10RF (Straight Lead) MECHANICAL DATA