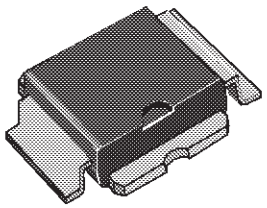
PD57030
PD57030S

RF POWER TRANSISTORS
The *LdmoST* Plastic FAMILY

TARGET DATA

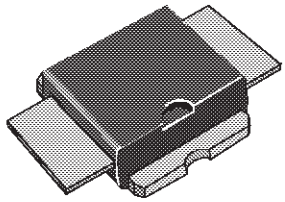
N-CHANNEL ENHANCEMENT-MODE LATERAL MOSFETs

- EXCELLENT THERMAL STABILITY
- COMMON SOURCE CONFIGURATION
- POUT = 30 W with 13 dB gain @ 945 MHz / 28V
- NEW RF PLASTIC PACKAGE



PowerSO-10RF
(Formed Lead)

ORDER CODE	BRANDING
PD57030	XPD57030



PowerSO-10RF
(Straight Lead)

ORDER CODE	BRANDING
PD57030S	XPD57030S

DESCRIPTION

The PD57030 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 28V in common source mode at frequencies of up to 1GHz. PD57030 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. PD57030'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 optimized for RF needs and offers excellent RF performances and ease of assembly.

ABSOLUTE MAXIMUM RATINGS (T_{CASE} = 25 ^{0}C)

Symbol	Parameter	Value	Unit
$V_{(BR)DSS}$	Drain-Source Voltage	65	V
V_{GS}	Gate-Source Voltage	±20	V
I_D	Drain Current	4	A
P_{DISS}	Power Dissipation (@ Tc = 70 ^{0}C)	52.8	W
T_j	Max. Operating Junction Temperature	165	^{0}C
T_{STG}	Storage Temperature	-65 to 175	^{0}C

THERMAL DATA (T_{CASE} = 70 ^{0}C)

$R_{th(j-c)}$	Junction-Case Thermal Resistance	1.8	^{0}C/W

ELECTRICAL SPECIFICATION (T_{CASE} = 25 ^{0}C)

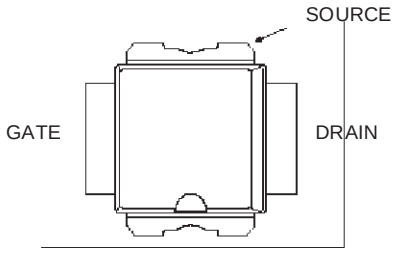
STATIC

Symbol	Parameter			Min.	Typ.	Max.	Unit
$V_{(BR)DSS}$	V_{GS} = 0 V	I_{DS} = 10mA		65			V
I_{DSS}	V_{GS} = 0 V	V_{DS} = 28V				1	µA
I_{GSS}	V_{GS} = 20V	V_{DS} = 0V				1	µA
$V_{GS(Q)}$	V_{DS} = 28V	I_D = 50mA		2.0		5.0	V
$V_{DS(ON)}$	V_{GS} = 10V	I_D = 3A			1.3		V
g_{FS}	V_{DS} = 10V	I_D = 3A			1.8		mho
C_{ISS}	V_{GS} = 0 V	V_{DS} = 28V	f = 1 MHz		57		pF
C_{OSS}	V_{GS} = 0 V	V_{DS} = 28V	f = 1 MHz		30		pF
C_{RSS}	V_{GS} = 0 V	V_{DS} = 28V	f = 1 MHz		1.4		pF

DYNAMIC

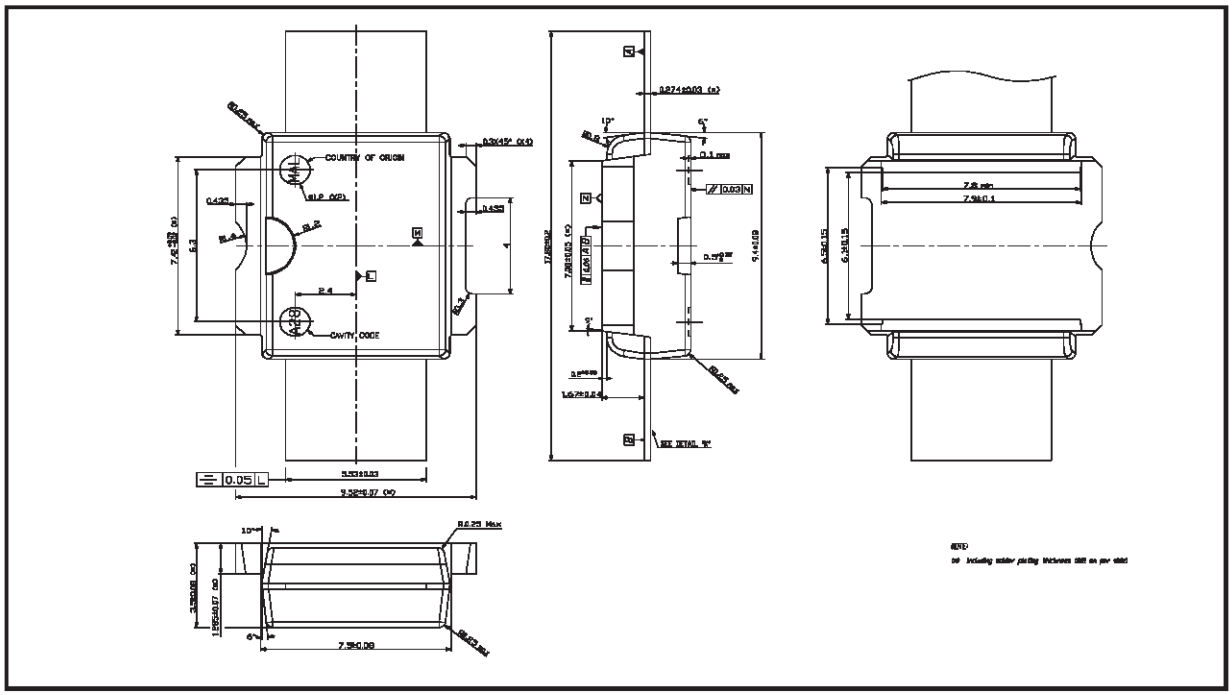
Symbol	Parameter				Min.	Typ.	Max.	Unit
P_{OUT}	V_{DD} = 28V	f = 945 MHz	I_{DQ} = 50mA		30			W
G_{PS}	V_{DD} = 28V	f = 945 MHz	P_{OUT} = 30W	I_{DQ} = 50mA	13	14		dB
η_D	V_{DD} = 28V	f = 945 MHz	P_{OUT} = 30W	I_{DQ} = 50mA	50	60		%
LOAD Mismatch	V_{DD} = 28V f = 945MHz ALL PHASE ANGLES		P_{OUT} = 30W	I_{DQ} = 50mA	10:1			VSWR

PIN CONNECTION



SC15200

PowerSO-10RF (Straight Lead) MECHANICAL DATA



PowerSO-10RF (Formed Lead) MECHANICAL DATA