



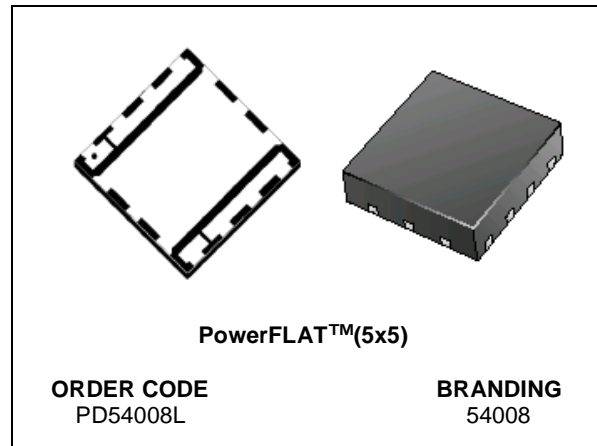
PD54008L

RF POWER TRANSISTORS The *LdmoST* PLASTIC FAMILY

TARGET DATA

N-CHANNEL ENHANCEMENT-MODE LATERAL MOSFETs

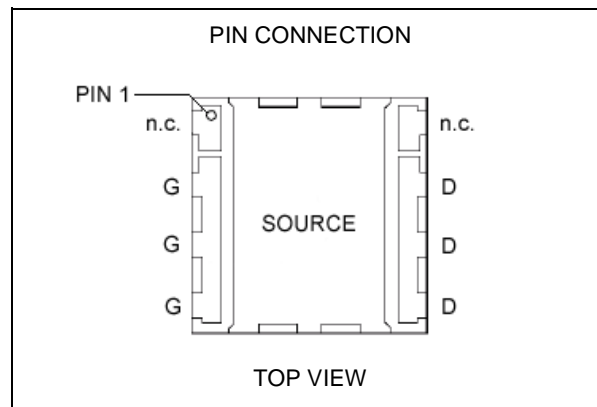
- EXCELLENT THERMAL STABILITY
- COMMON SOURCE CONFIGURATION
- $P_{OUT} = 8\text{ W}$ WITH 19 dB gain @ 500 MHz
- NEW LEADLESS PLASTIC PACKAGE
- ESD PROTECTION
- SUPPLIED IN TAPE & REEL OF 3K UNITS



DESCRIPTION

The PD54008L 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 7 V in common source mode at frequencies of up to 1 GHz. PD54008L boasts the excellent gain, linearity and reliability of STH1LV latest LDMOS technology mounted in the innovative leadless SMD plastic package, PowerFLAT™.

PD54008L's superior linearity performance makes it an ideal solution for portable radio.



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

Symbol	Parameter	Value	Unit
$V_{(BR)DSS}$	Drain-Source Voltage	25	V
V_{GS}	Gate-Source Voltage	-0.5 to +15	V
I_D	Drain Current	4	A
P_{DISS}	Power Dissipation (@ $T_c = 70^{\circ}\text{C}$)	44	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	1.8	$^{\circ}\text{C/W}$
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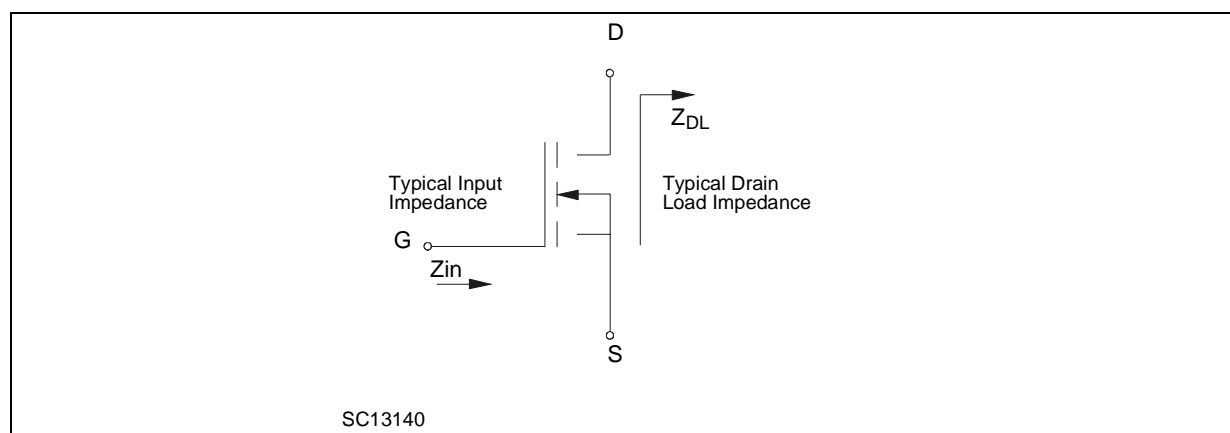
ELECTRICAL SPECIFICATION ($T_{CASE} = 25^{\circ}C$)

STATIC (Per Section)

Symbol	Test Conditions		Min.	Typ.	Max.	Unit
I_{DSS}	$V_{GS} = 0\text{ V}$	$V_{DS} = 25\text{ V}$			1	μA
I_{GSS}	$V_{GS} = 5\text{ V}$	$V_{DS} = 0\text{ V}$			1	μA
$V_{GS(Q)}$	$V_{DS} = 10\text{ V}$	$I_D = 50\text{ mA}$	2.0		5.0	V
$V_{DS(ON)}$	$V_{GS} = 10\text{ V}$	$I_D = 0.5\text{ A}$		0.13	0.16	V
g_{FS}	$V_{DS} = 10\text{ V}$	$I_D = 3.2\text{ A}$		TBD		mho
C_{ISS}	$V_{GS} = 0\text{ V}$	$V_{DS} = 7.5\text{ V}$		80		pF
C_{OSS}	$V_{GS} = 0\text{ V}$	$V_{DS} = 7.5\text{ V}$		60		pF
C_{RSS}	$V_{GS} = 0\text{ V}$	$V_{DS} = 7.5\text{ V}$		6.6		pF

DYNAMIC

Symbol	Test Conditions				Min.	Typ.	Max.	Unit
P_{1dB}	$V_{DD} = 7.5\text{ V}$	$I_{DQ} = 150\text{ mA}$	$f = 500\text{ MHz}$		8			W
G_{PS}	$V_{DD} = 7.5\text{ V}$	$I_{DQ} = 150\text{ mA}$	$P_{OUT} = 8\text{ W}$	$f = 500\text{ MHz}$	16	19		dB
η_D	$V_{DD} = 7.5\text{ V}$	$I_{DQ} = 150\text{ mA}$	$P_{OUT} = 8\text{ W}$	$f = 500\text{ MHz}$	50	55		%
Load mismatch	$V_{DD} = 9.5\text{ V}$	$I_{DQ} = 150\text{ mA}$	$P_{OUT} = 8\text{ W}$	$f = 500\text{ MHz}$ ALL PHASE ANGLES	20:1			VSWR



ESD PROTECTION CHARACTERISTICS

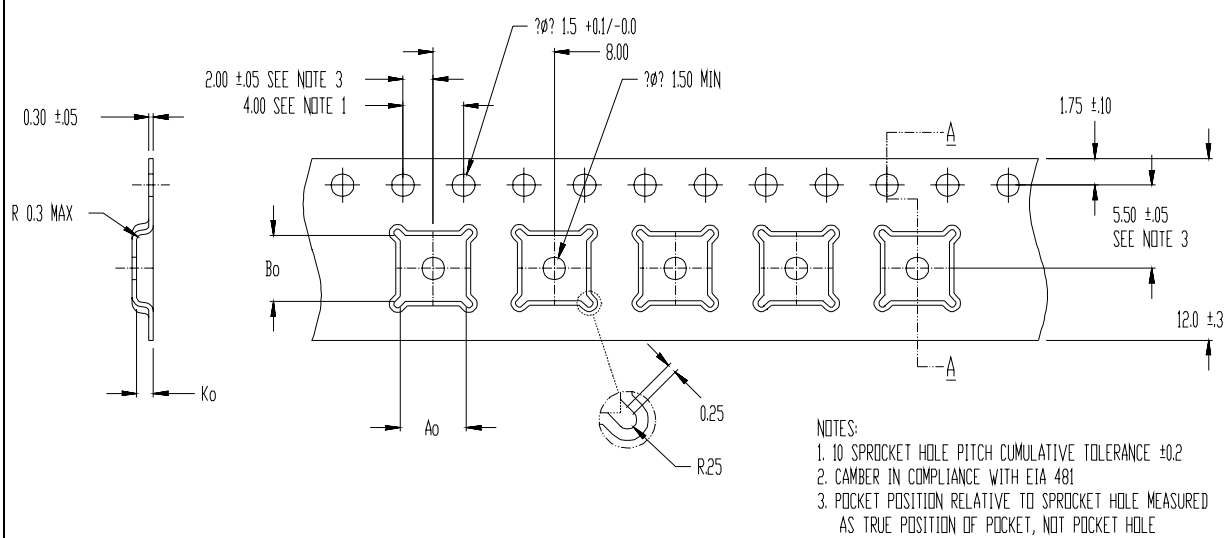
Test Conditions	Class
Human Body Model	2
Machine Model	M3

MOISTURE SENSITIVITY LEVEL

Test Methodology	Rating
J-STD-020B	MSL 3

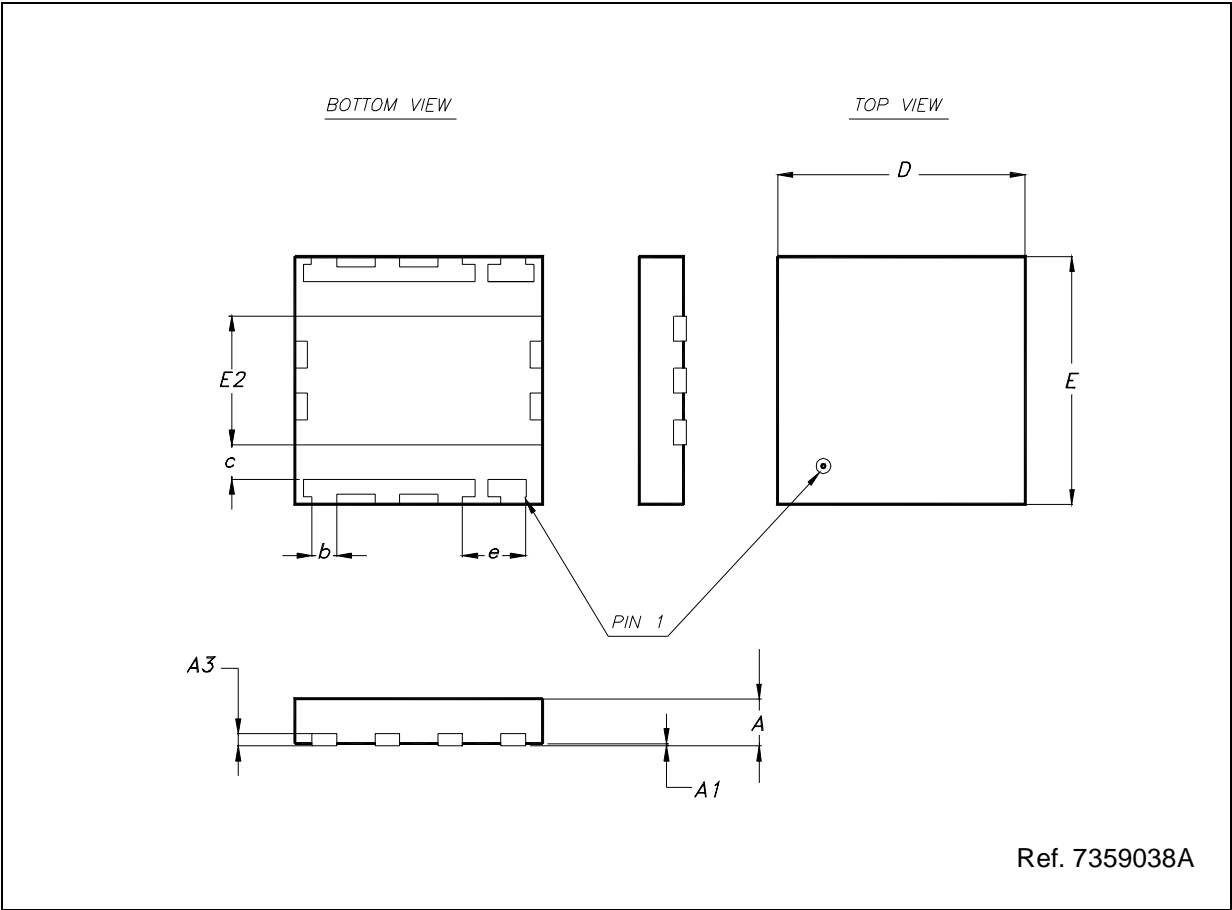
TAPE & REEL DIMENSIONS

	mm		
	MIN.	TYP.	MAX
Ao	5.15	5.25	5.35
Bo	5.15	5.25	5.35
Ko	1.0	1.1	1.2



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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