

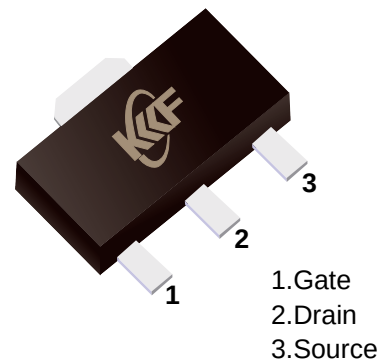
2SK3078

概述和特点

- 开关速度快
- 并联使用
- 驱动电路简单
- 封装外型: SOT-89

2SK3078 型硅基 N 沟道 LDMOS

晶体管，主要用于高频电子放大线路中，可替代东芝 2SK3078。

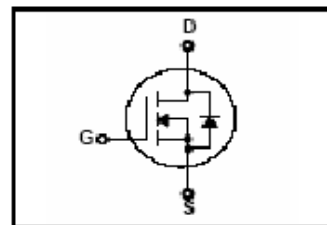


■ Simplified outline(SOT-89)

典型参数

$P_O = 28.0\text{dBmW}$
 $G_p = 13.0\text{dB}$
 $\eta_D = 50\%$

内部等效电路图



极限参数 (除另外注明, $T_a = 25^\circ\text{C}$)

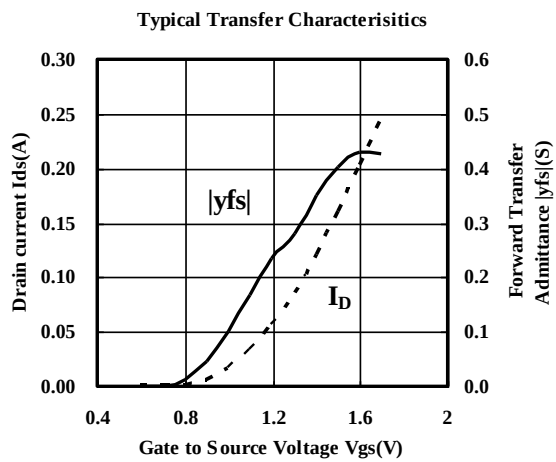
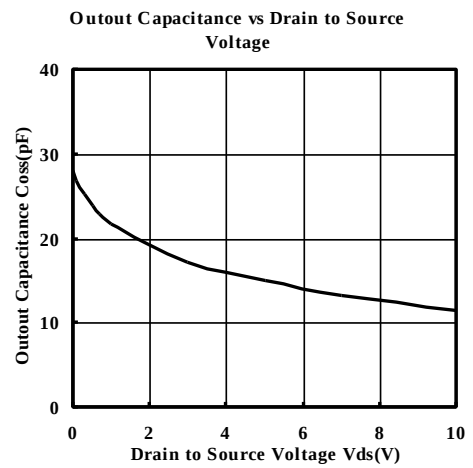
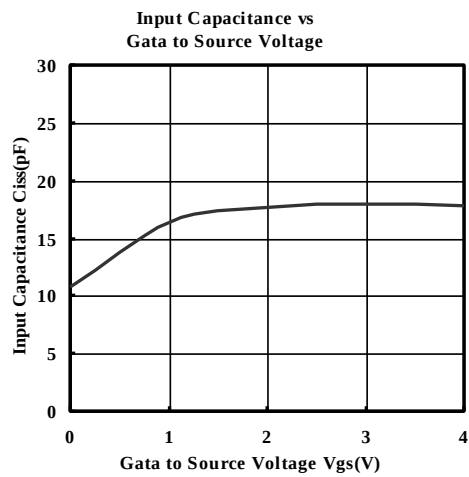
参数	Symbol	Rating	Unit
漏源电压	V_{DS}	12	V
漏极电流	I_D	0.5	A
栅源电压	V_{GS}	5	V
耗散功率	P_{tot}	3.0	W
结温	T_j	150	$^\circ\text{C}$
贮存温度	T_{stg}	$-55 \sim 150$	$^\circ\text{C}$

电参数 (除另外注明, $T_a = 25^\circ\text{C}$)

参数	Symbol	Test Conditions	Criterion			Unit
			Min	Typ	Max	
开启电压	$V_{GS(th)}$	$V_{DS} = 5\text{V}, I_D = 0.5\text{mA}$	0.6	0.8	1.2	V
漏源泄漏电流	I_{DSS}	$V_{DS} = 10\text{V}, V_{GS} = 0\text{V}$			10	μA
栅源泄漏电流	I_{GSS}	$V_{GS} = 5\text{V}$			5	μA
工作电压	V_{DS}	$f = 450\text{MHz}, I_{DS} = 100\text{mA}, P_i = 15\text{dBmW}$		5	8.4	V
栅极工作电压	$V_{GS(TYP)}$	$V_{DS} = 5\text{V}, f = 500\text{MHz}$ $I_{DS} = 100\text{mA}, P_i = 15\text{dBmW}$	0.8	1.3	1.5	V
输出功率	P_O	$V_{DS} = 5\text{V}, f = 450\text{MHz}$ $I_{DS} = 100\text{mA}, V_{GS(TYP)} = 1.30\text{V},$ $P_i = 15\text{dBmW}$	27.5	28.5		dBmW
转换效率	η_D		45	55		%
输出功率	P_O		0.56	0.71		W
功率增益	G_p		12.5	13.5		dB

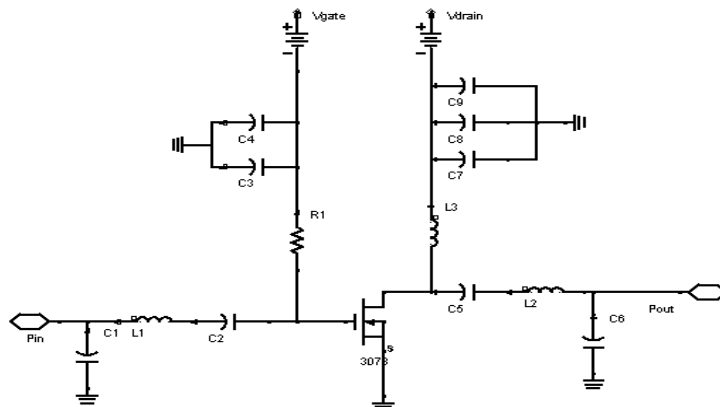
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3 特征曲线



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4 应用线路图及射频参数



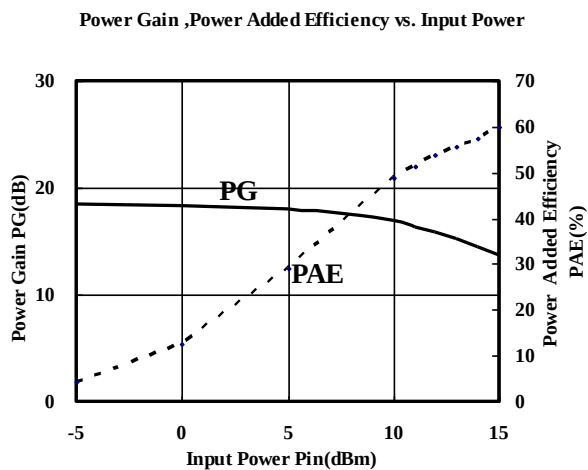
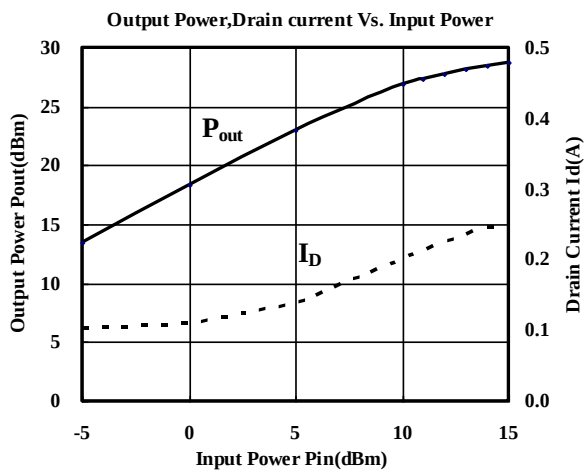
400MHz~470MHz 应用线路图

元件值:

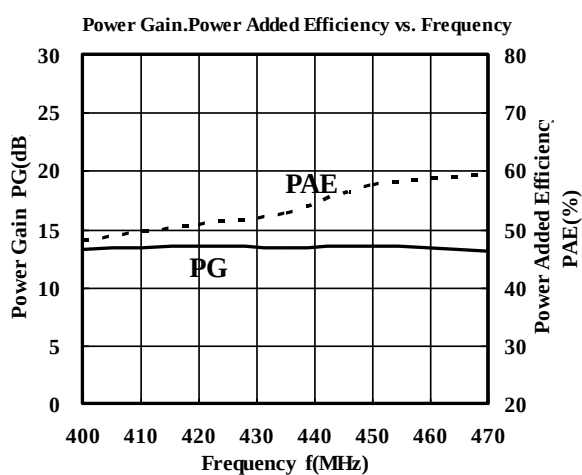
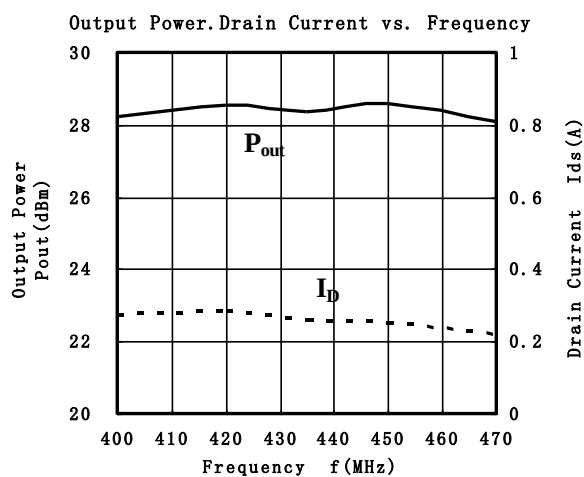
元件名称	元件值	单位
C1	10	pF
C2,C5	100	pF
C3,C7	1000	pF
C4,C8	10000	pF
C6	12	pF
C9	4.7	μF
R1	360	Ω
L1	10	nH
L2	3.3	nH
L3	5 圈线圈, Φ=2mm	

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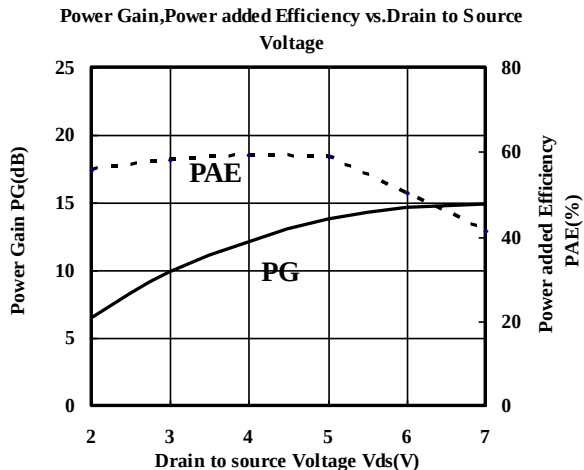
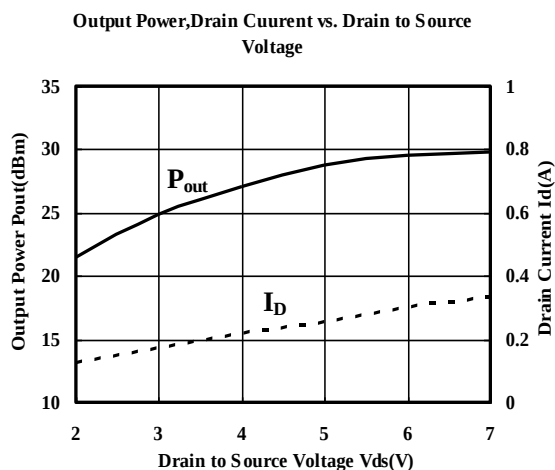
$f=450\text{MHz}$, $V_{DS}=5\text{V}$, $I_{DQ}=100\text{mA}$, $V_{GS}(\text{TYP})=1.30\text{V}$



$V_{DS}=5\text{V}$, $I_{DQ}=100\text{mA}$, $P_{in}=15\text{dBm}$

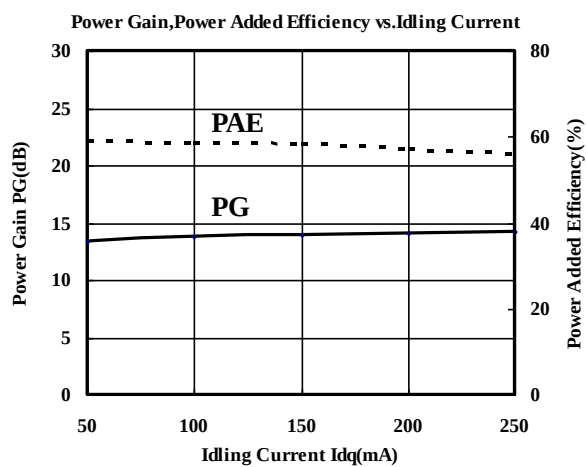
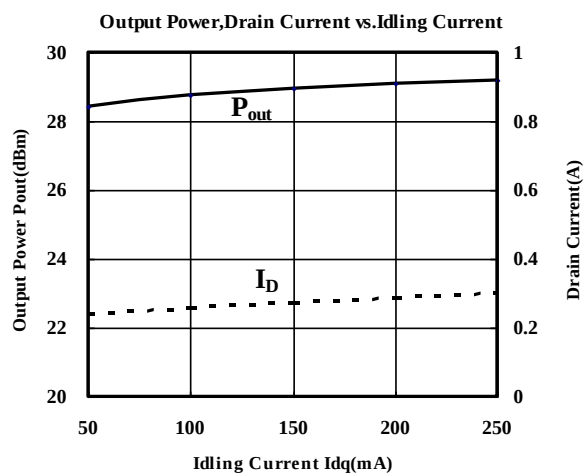


$f=450\text{MHz}$, $I_{DQ}=100\text{mA}$, $P_{in}=15\text{dBm}$



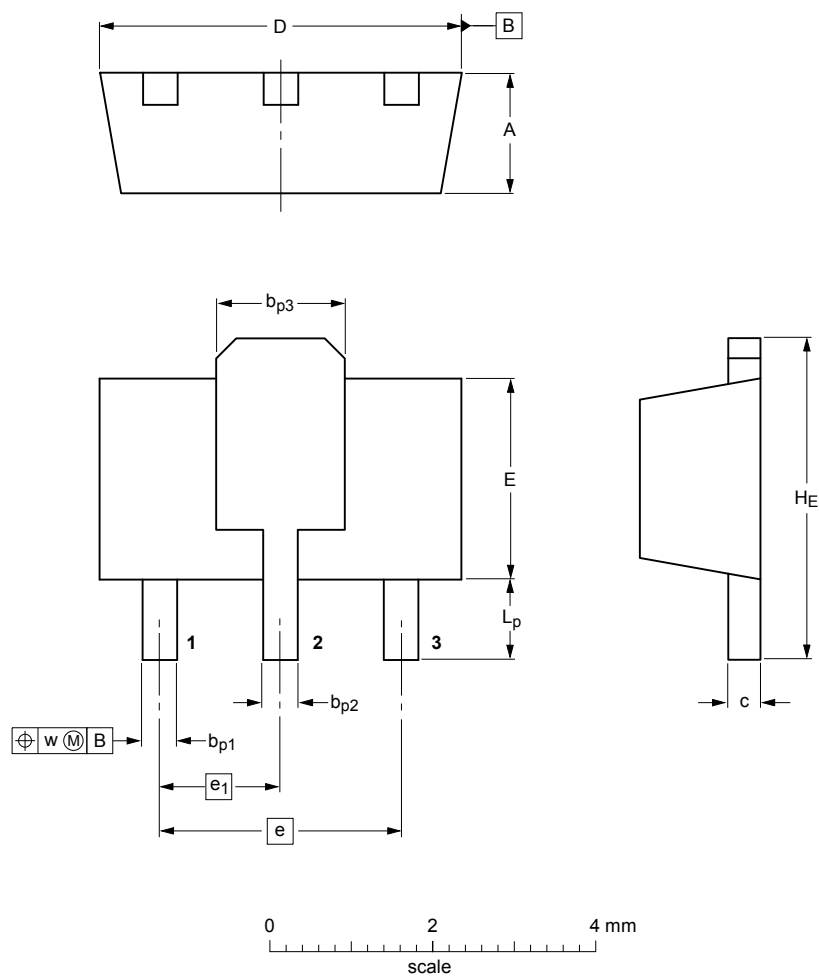
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$f=450\text{MHz}$, $V_{ds}=5\text{V}$, $P_{in}=15\text{dBm}$



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■ SOT-89



DIMENSIONS (mm are the original dimensions)

UNIT	A	b _{p1}	b _{p2}	b _{p3}	c	D	E	e	e ₁	H _E	L _p	w
mm	1.6 1.4	0.48 0.35	0.53 0.40	1.8 1.4	0.44 0.23	4.6 4.4	2.6 2.4	3.0	1.5	4.25 3.75	1.2 0.8	0.13