

3SK317 Silicon N-Channel Dual Gate MOS FET UHF / VHF RF Amplifier

REJ03G1247-0200 (Previous: ADE-208-778) Rev.2.00 Aug. 10, 2005

Features

- Low noise characteristics; (NF = 1.0 dB typ. at f = 200 MHz)
- High power gain characteristics; (PG = 27.6 dB typ. at f = 200 MHz)

Outline

RENESAS Package code: PTSP0004ZA-A (Package name: CMPAK-4)



1. Source 2. Gate1 3. Gate2 4. Drain

Note: Marking is "ZR-".



Absolute Maximum Ratings

$(Ta = 25^{\circ}C)$

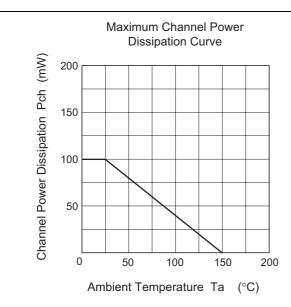
Item	Symbol	Ratings	Unit
Drain to source voltage	V _{DS}	14	V
Gate1 to source voltage	V _{G1S}	±8	V
Gate2 to source voltage	V _{G2S}	±8	V
Drain current	ID	25	mA
Channel power dissipation	Pch	100	mW
Channel temperature	Tch	150	°C
Storage temperature	Tstg	-55 to +150	°C

Electrical Characteristics

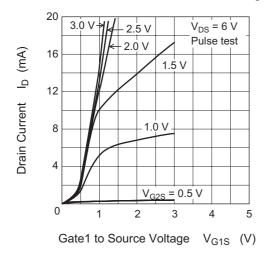
						(Ta = 25°C)	
ltem	Symbol	Min	Тур	Max	Unit	Test Conditions	
Drain to source breakdown voltage	V _{(BR)DSS}	14	—		V	I_D = 200 μA , V_{G1S} = V_{G2S} = –3 V	
Gate1 to source breakdown voltage	V _{(BR)G1SS}	±8	—		V	$I_{G1} = \pm 10 \ \mu A, \ V_{G2S} = V_{DS} = 0$	
Gate2 to source breakdown voltage	V _{(BR)G2SS}	±8	—		V	$I_{G2} = \pm 10 \ \mu A, \ V_{G1S} = V_{DS} = 0$	
Gate1 to source cutoff current	I _{G1SS}	_	—	±100	nA	$V_{G1S} = \pm 6 V, V_{G2S} = V_{DS} = 0$	
Gate2 to source cutoff current	I _{G2SS}	_	—	±100	nA	$V_{G2S} = \pm 6 V, V_{G1S} = V_{DS} = 0$	
Gate1 to source cutoff voltage	V _{G1S(off)}	0	0.2	1	V	V_{DS} = 10 V, V_{G2S} = 3 V, I_{D} = 100 μ A	
Gate2 to source cutoff voltage	V _{G2S(off)}	0	0.3	1	V	V_{DS} = 10 V, V_{G1S} = 3 V, I_{D} = 100 μ A	
Drain current	I _{DS(op)}	4	8	14	mA	$V_{DS} = 6 \text{ V}, V_{G1S} = 0.75 \text{ V}, V_{G2S} = 3 \text{ V}$	
Forward transfer admittance	y _{fs}	20	25	—	mS	$V_{DS} = 6 V, V_{G2S} = 3 V$ $I_D = 10 mA, f = 1 kHz$	
Input capacitance	Ciss	2.4	3.1	3.5	pF	$V_{DS} = 6 V, V_{G2S} = 3 V,$ $I_D = 10 mA, f = 1 MHz$	
Output capacitance	Coss	0.8	1.1	1.4	pF		
Reverse transfer capacitance	Crss	_	0.021	0.04	pF		
Power gain	PG	24	27.6	_	dB	$V_{DS} = 6 V, V_{G2S} = 3 V,$ $I_D = 10 mA, f = 200 MHz$	
Noise figure	NF	_	1.0	1.5	dB		
Power gain	PG	12	15.6	—	dB	$V_{DS} = 6 V, V_{G2S} = 3 V,$	
Noise figure	NF	_	3	4	dB	I _D = 10 mA, f = 900 MHz	
Noise figure	NF	_	2.7	3.5	dB	$V_{DS} = 6 V, V_{G2S} = 3 V$ $I_D = 10 mA, f = 60 MHz$	

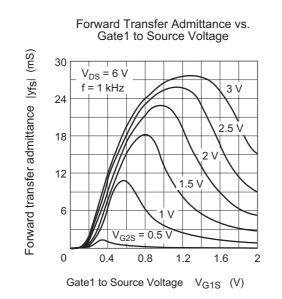
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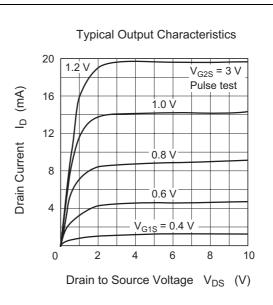
Main Characteristics



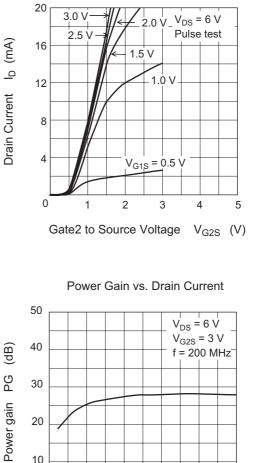
Drain Current vs. Gate1 to Source Voltage

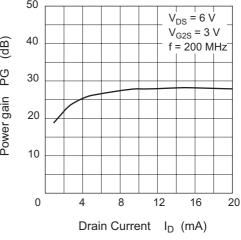


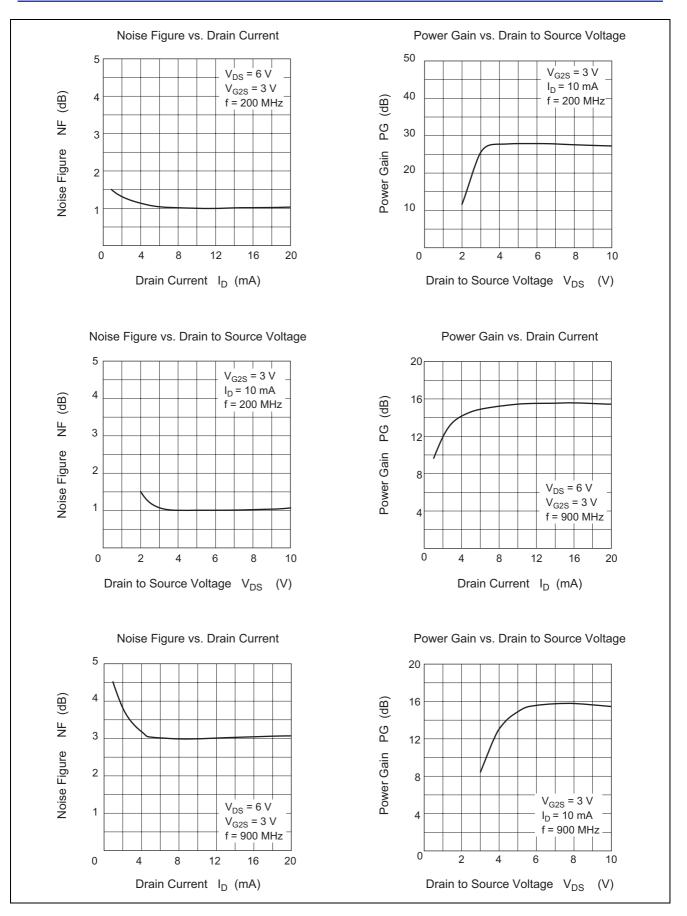


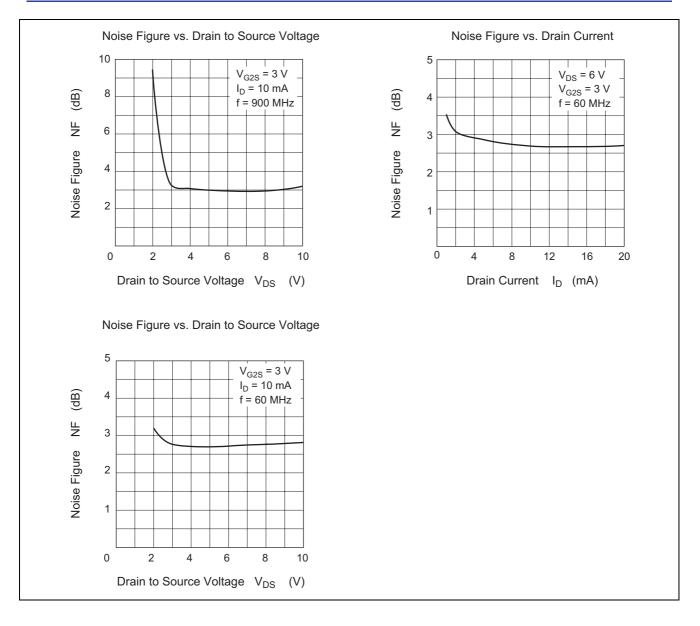


Drain Current vs. Gate2 to Source Voltage

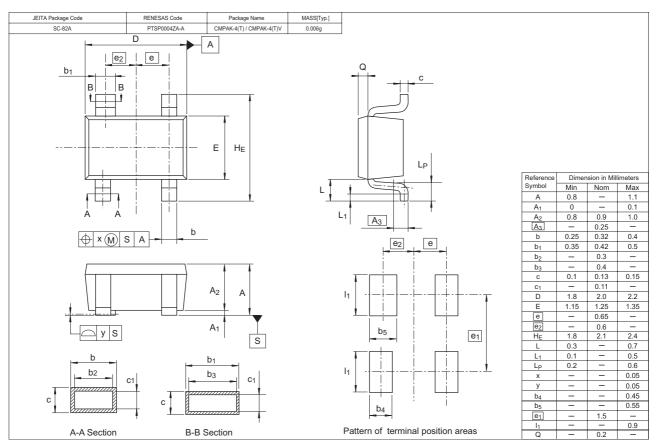








Package Dimensions



Ordering Information

Part Name	Quantity	Shipping Container
3SK317ZR-TL-E	3000	φ178 mm Reel, 8 mm Emboss Taping

Note: For some grades, production may be terminated. Please contact the Renesas sales office to check the state of production before ordering the product.

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