2SK1215

Silicon N-Channel MOS FET

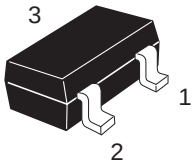
REJ03G0813-0200
(Previous ADE-208-1176)
Rev.2.00
Aug.10.2005

Application

VHF amplifier

Outline

RENESAS Package code: PTSP0003ZA-A
(Package name: CMPAK®)



1. Gate
2. Drain
3. Source

*CMPAK is a trademark of Renesas Technology Corp.

Absolute Maximum Ratings

(Ta = 25°C)

Item	Symbol	Ratings	Unit
Drain to source voltage	V_{DSX}*1	20	V
Gate to source voltage	V_{GSS}	±5	V
Drain current	I_D	30	mA
Gate current	I_G	±1	mA
Channel power dissipation	Pch	100	mW
Channel temperature	Tch	150	°C
Storage temperature	Tstg	–55 to +150	°C

Note: 1. V_{GS} = –4 V

Electrical Characteristics

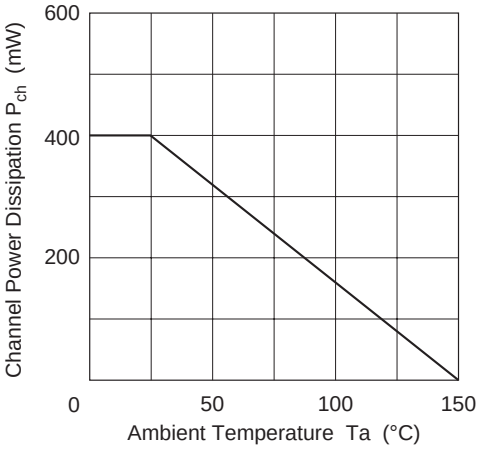
(Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test conditions
Drain to source breakdown voltage	$V_{(BR)DSX}$	20	—	—	V	I_D = 100 µA, V_{GS} = –4 V
Gate cutoff current	I_{GSS}	—	—	±20	nA	V_{GS} = ±5 V, V_{DS} = 0
Drain current	I_{DSS}*1	6	—	12	mA	V_{DS} = 10 V, V_{GS} = 0
Gate to source cutoff voltage	$V_{GS(off)}$	0	—	–2.0	V	V_{DS} = 10 V, I_D = 10 µA
Forward transfer admittance	$\|y_{fs}\|$	8	14	—	mS	V_{DS} = 10 V, V_{GS} = 0, f = 1 kHz
Input capacitance	Ciss	—	2.5	—	pF	V_{DS} = 10 V, V_{GS} = 0, f = 1 MHz
Output capacitance	Coss	—	1.6	—	pF	
Reverse transfer capacitance	Crss	—	0.03	—	pF	
Power gain	PG	24	—	—	dB	V_{DS} = 10 V, V_{GS} = 0, f = 100 MHz
Noise figure	NF	—	—	3	dB	

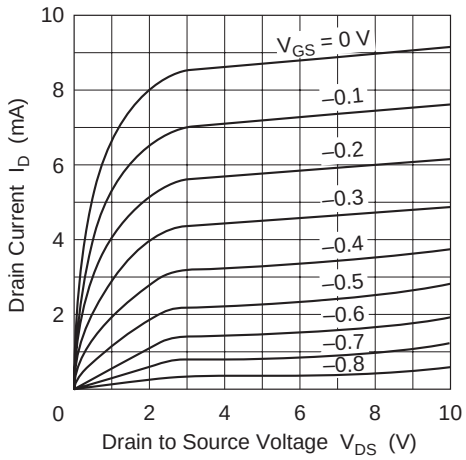
Note: 1. The 2SK1215 is grouped by I_{DSS} as follows.

Grade	E	F
Mark	IGE	IGF
I_{DSS}	6 to 10	8 to 12

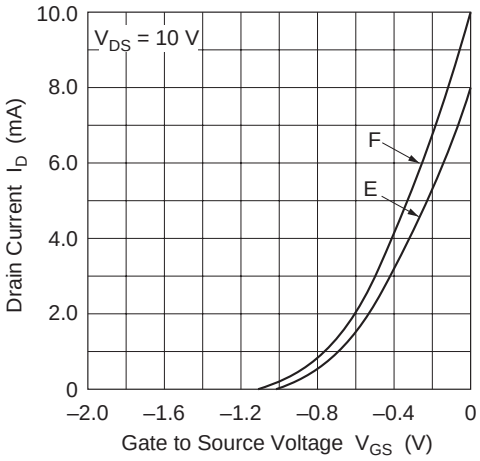
Maximum Channel Dissipation Curve



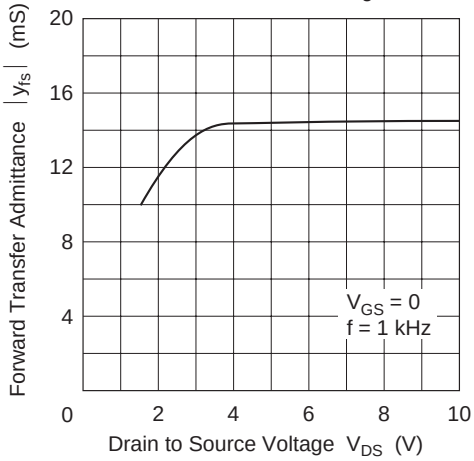
Typical Output Characteristics



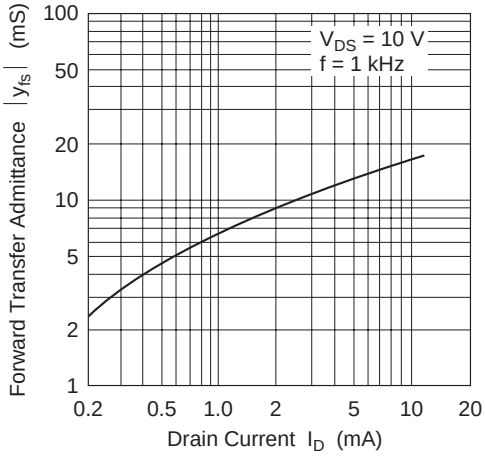
Typical Transfer Characteristics



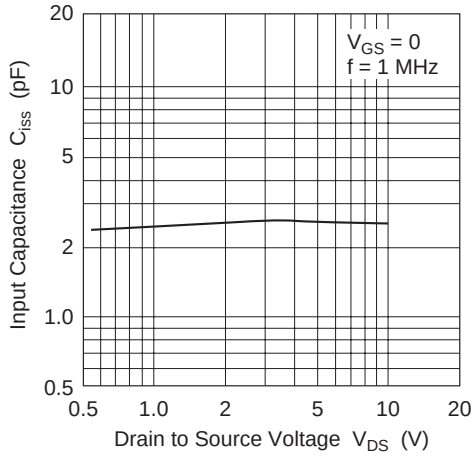
Forward Transfer Admittance vs. Drain to Source Voltage



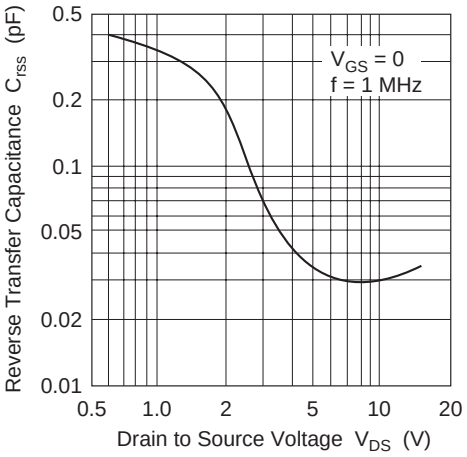
Forward Transfer Admittance vs. Drain Current



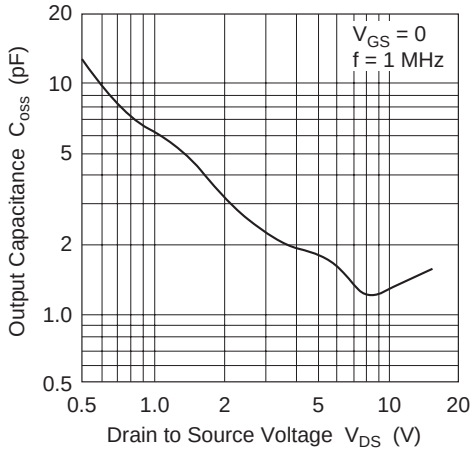
Input Capacitance vs. Drain to Source Voltage



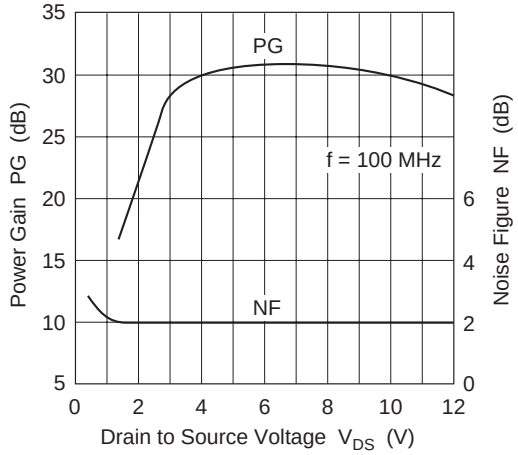
Reverse Transfer Capacitance vs.
Drain to Source Voltage



Output Capacitance vs.
Drain to Source Voltage

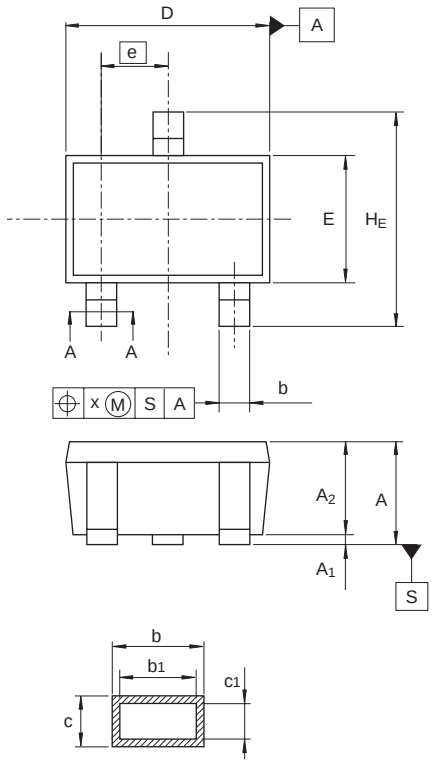


Power Gain, Noise Figure vs.
Drain to Source Voltage

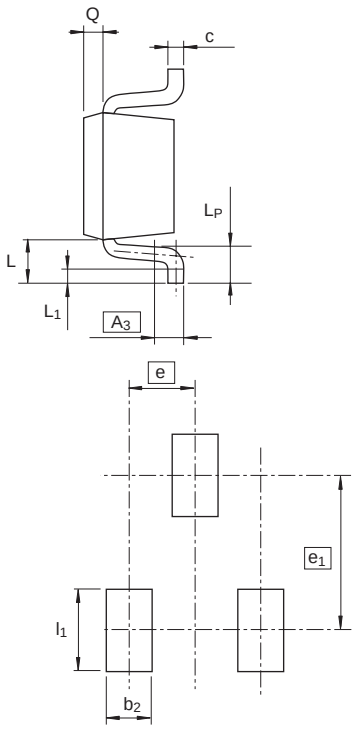


Package Dimensions

JEITA Package Code	RENESAS Code	Package Name	MASS[Typ.]
SC-70	PTSP0003ZA-A	CMPAK / CMPAKV	0.006g



A-A Section



Pattern of terminal position areas

Reference Symbol	Dimension in Millimeters		
	Min	Nom	Max
A	0.8	—	1.1
A_1	0	—	0.1
A_2	0.8	0.9	1.0
A_3	—	0.25	—
b	0.25	0.32	0.4
b_1	—	0.3	—
c	0.1	0.13	0.15
c_1	—	0.11	—
D	1.8	2.0	2.2
E	1.15	1.25	1.35
e	—	0.65	—
H_E	1.8	2.1	2.4
L	0.3	—	0.7
L_1	0.1	—	0.5
L_P	0.2	—	0.6
x	—	—	0.05
b_2	—	—	0.45
e_1	—	1.5	—
l_1	—	—	0.9
Q	—	0.2	—

Ordering Information

Part Name	Quantity	Shipping Container
2SK1215IGETL	3000	ϕ 178 mm Reel, 8 mm Emboss Taping
2SK1215IGFTL	3000	ϕ 178 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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