



SANYO Semiconductors

# DATA SHEET

An ON Semiconductor Company

## 2SK715 — N-Channel Junction Silicon FET AM Tuner, RF Amplifier Applications

### Applications

- AM tuner RF amp, low-noise amp
- HF low-noise amp

### Features

- Adoption of FBET process
- Large  $|y_{fs}|$
- Small Ciss
- Very low noise figure

### Specifications

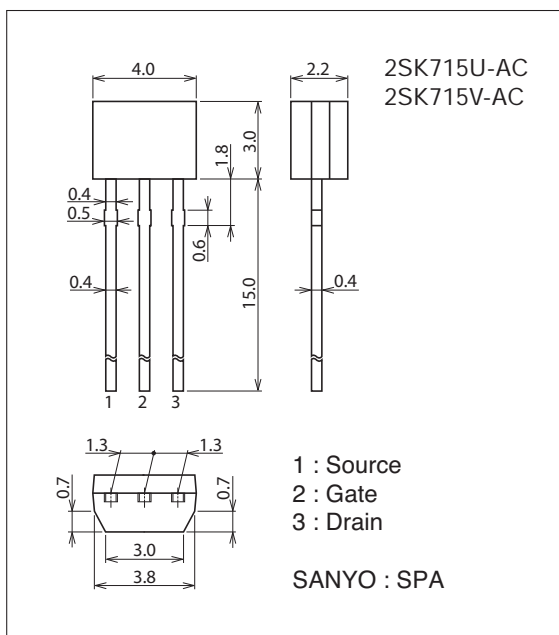
Absolute Maximum Ratings at  $T_a=25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	$V_{DSS}$		15	V
Gate-to-Drain Voltage	$V_{GDS}$		-15	V
Gate Current	$I_G$		10	mA
Drain Current	$I_D$		50	mA
Allowable Power Dissipation	$P_D$		300	mW
Junction Temperature	$T_J$		125	$^\circ\text{C}$
Storage Temperature	$T_{stg}$		-55 to +125	$^\circ\text{C}$

### Package Dimensions

unit : mm (typ)

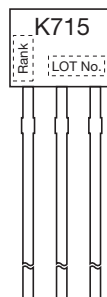
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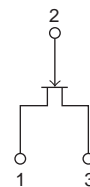
### Product & Package Information

- Package : SPA
- JEITA, JEDEC : SC-72
- Minimum Packing Quantity : 2,500 pcs./box

### Marking



### Electrical Connection



# 2SK715

## Electrical Characteristics at Ta=25°C

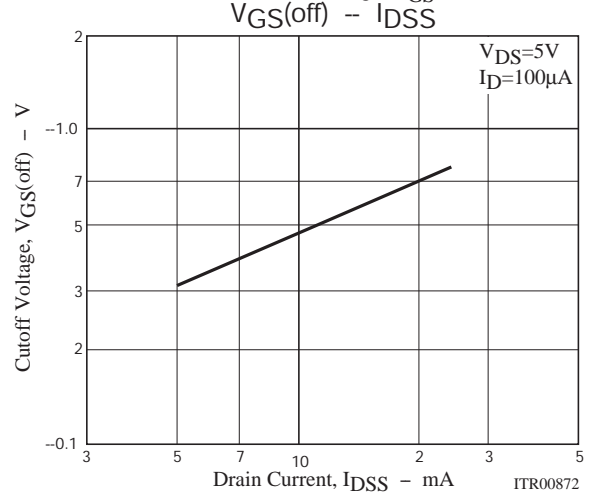
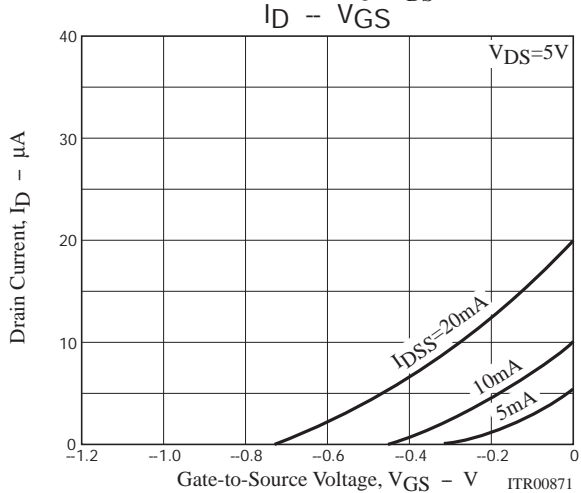
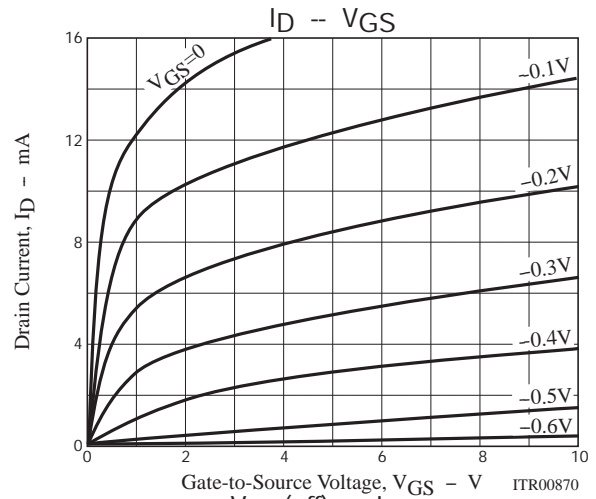
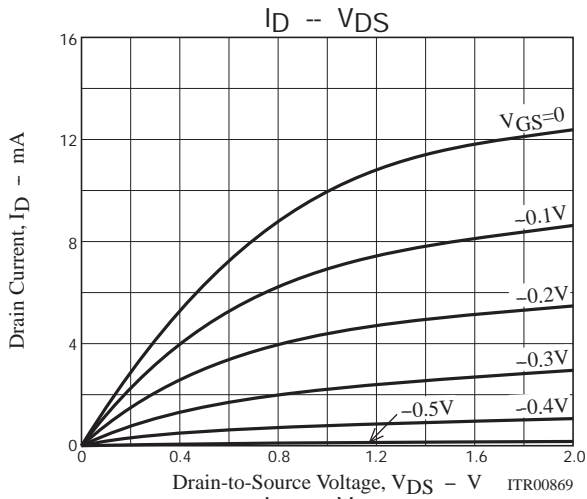
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Gate-to-Drain Breakdown Voltage	V(BR)GDS	I <sub>G</sub> =-10μA, V <sub>DS</sub> =0V	-15			V
Gate-to-Source Leakage Current	I <sub>GSS</sub>	V <sub>GS</sub> =-10V, V <sub>DS</sub> =0V			-1.0	nA
Zero-Gate Voltage Drain Current	I <sub>DSS</sub> *	V <sub>DS</sub> =5V, V <sub>GS</sub> =0V	5.0*		24.0*	mA
Cutoff Voltage	V <sub>GS(off)</sub>	V <sub>DS</sub> =5V, I <sub>D</sub> =100μA		-0.6	-1.4	V
Forward Transfer Admittance	y <sub>fs</sub>	V <sub>DS</sub> =5V, V <sub>GS</sub> =0V, f=1kHz	25	50		mS
Input Capacitance	C <sub>iss</sub>				10	pF
Reverse Transfer Capacitance	C <sub>rss</sub>				3.0	pF
Noise Figure	NF	V <sub>DS</sub> =5V, R <sub>G</sub> =1kΩ, I <sub>D</sub> =1mA, f=1kHz		1.5		dB

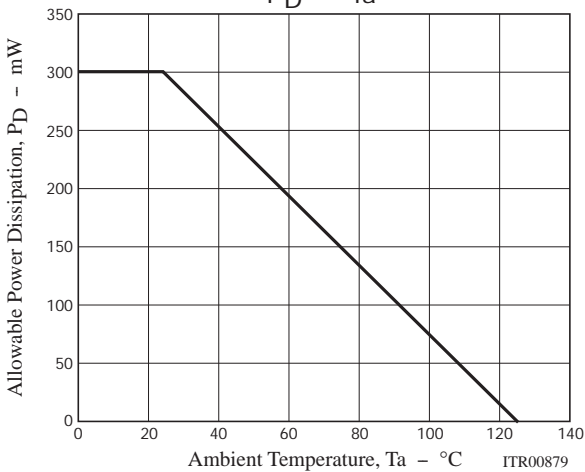
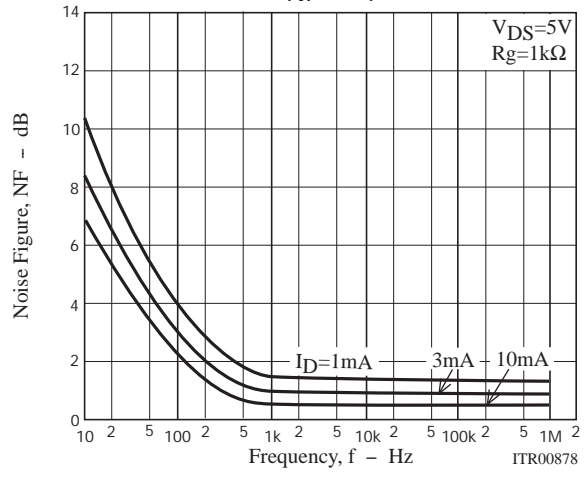
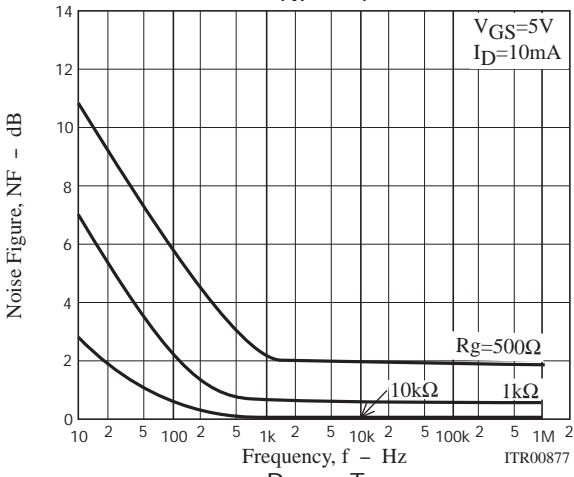
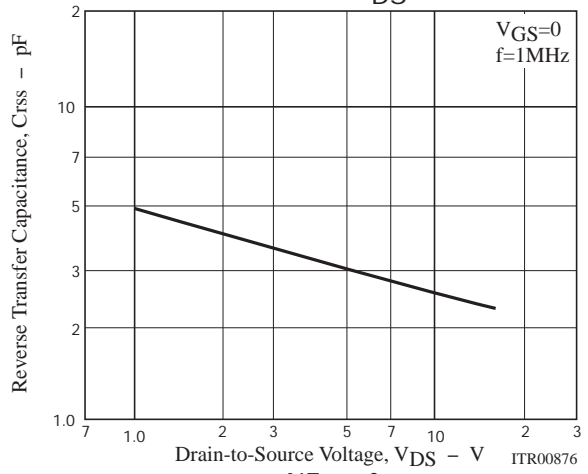
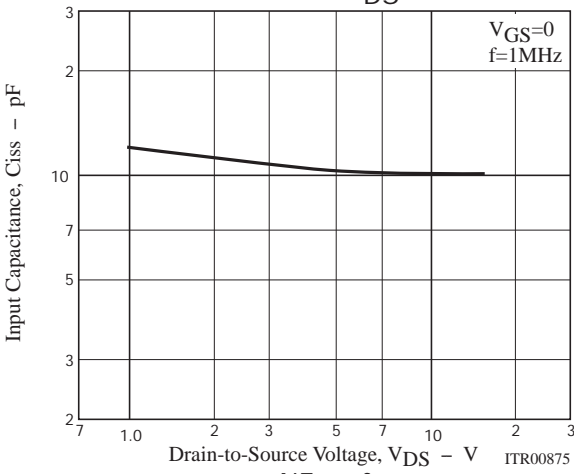
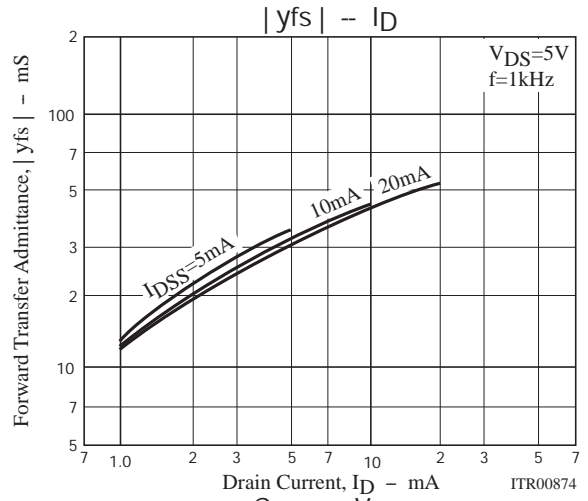
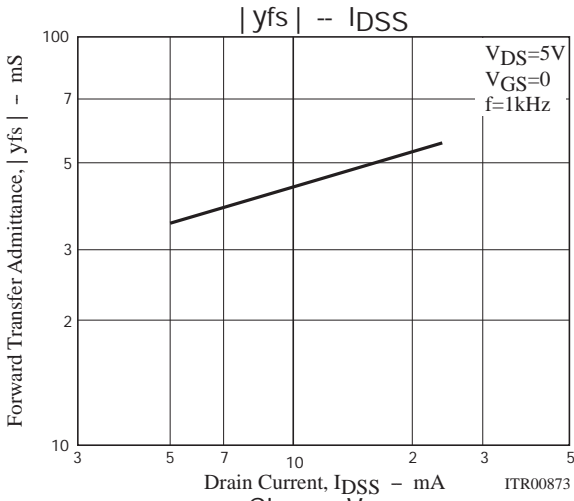
\* : The 2SK715 is classified by I<sub>DSS</sub> as follows : (unit : mA)

Rank	T	U	V	W
I <sub>DSS</sub>	5.0 to 8.5	7.3 to 12.0	10.0 to 17.0	14.5 to 24.0

## Ordering Information

Device	Package	Shipping	memo
2SK715U-AC	SPA	2,500pcs./box	Pb Free
2SK715V-AC	SPA	2,500pcs./box	





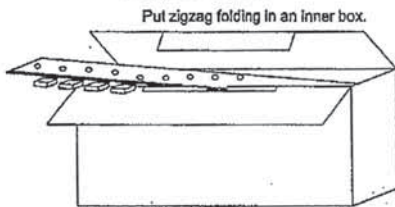
Taping Specification

2SK715U-AC, 2SK715V-AC

Storage package Outline name	Package type	Maximum Number of devices contained(pcs.)		Packing format	
		Inner box No.	Storage quantity	Outer box (C-6)	Outer box (C-8)
SPA	A C	C-2 Inner box Dimensions :mm(external) 330×45×145	2,500	16 inner boxes contained(40,000pcs.) Outer box Dimensions:mm(external) 585×345×200	8 inner boxes contained(20,000pcs.) Outer box Dimensions:mm(external) 345×300×200
	A L	C-2 Inner box Dimensions :mm(external) 330×45×145	2,400	16 inner boxes contained(38,400pcs.) Outer box Dimensions:mm(external) 585×345×200	8 inner boxes contained(19,200pcs.) Outer box Dimensions:mm(internal) 345×300×200
	A P	C-4 Inner box Dimensions :mm(external) 330×45×285	5,000	8 inner boxes contained(40,000pcs.) Outer box Dimensions:mm(external) 585×345×200	4 inner boxes contained(20,000pcs.) Outer box Dimensions:mm(internal) 345×300×200
	A S	C-2 Inner box Dimensions :mm(external) 330×45×145	1,200	16 inner boxes contained(9,200pcs.) Outer box Dimensions:mm(external) 585×345×200	8 inner boxes contained(9,600 pcs.) Outer box Dimensions:mm(internal) 345×300×200

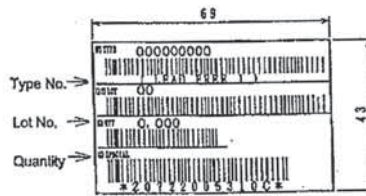
1. Packing format

Packing method



Sample bar code label

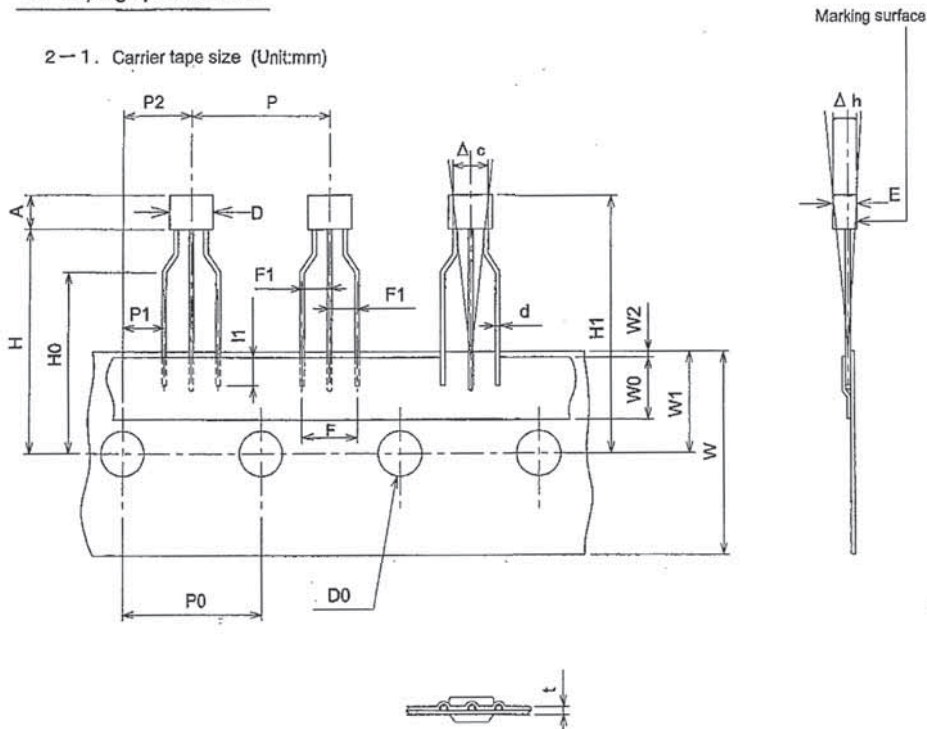
(Unit : mm)



\*LEAD FREE 1 :  
Lead-free external terminal surface treatment product.

2. Taping specifications

2-1. Carrier tape size (Unit:mm)



2-2. Taping size standard

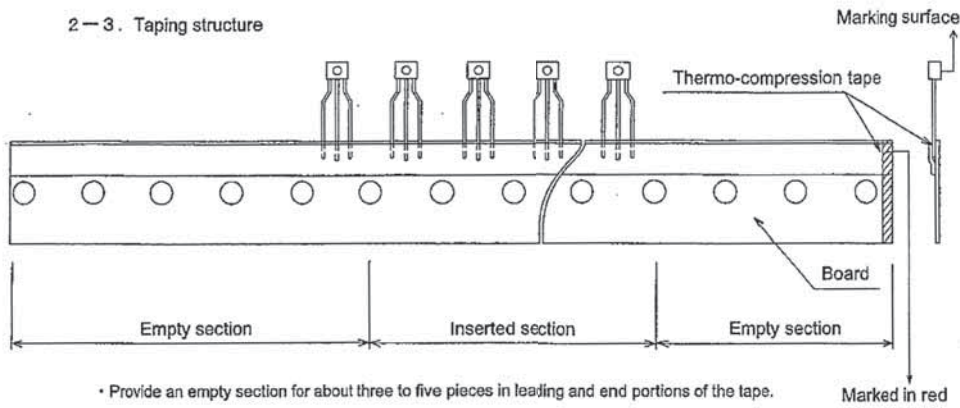
Unit:mm

Item	Symbol	Standard	Tolerance
Work piece outside diameter	D	4.0	±0.2
	E	2.2	±0.2
Work piece height	A	3.0	±0.2
Lead wire diameter	d	0.4 × 0.4 t	±0.1
Bonded lead wire	l1	2.5MIN	
Pitch between products	P	12.7	±1.0
Pitch between perforations	P0	12.7	±0.2
Total pitch for 21 perforations	P0 × 20	254.0	±1.0
Distance between lead wire	F	5.0	+0.8 -0.2
Lead wire pitch distance	F1	2.5	+0.4 -0.1
Product inclination	Δ h	0	±2.0
Displacement of perforations	P1	3.85	±0.3
	P2	6.35	±0.3
Displacement of tape	W2	0.5MAX	Not to be displaced to the outside of the board

Item	Symbol	Standard	Tolerance
Tape width	W	18.0	+1.0 -0.5
Adhesive tape	W0	6.0	±1.0
Displacement of perforations	W1	9.0	+0.75 -0.5
Work piece bottom surface position	H	19.8	+1.0 -0.3
Lead wire clinch height	H0	16.0	±0.5
Work piece upper limit position	H1	22.8	±1.5
Perforations diameter	D0	φ 4.0	±0.2
Tape thickness (total thickness)	t	0.6	±0.2
Product inclination	Δ c	0	±1.0

2-3. Taping structure

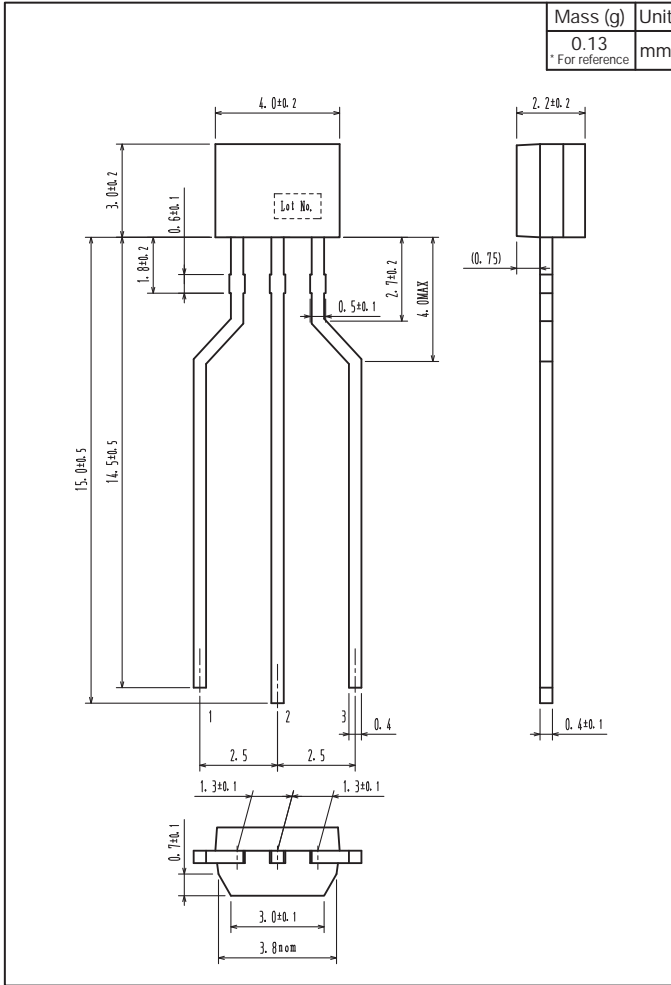


- Provide an empty section for about three to five pieces in leading and end portions of the tape.
- Provide marking in red to the E-side end of the board.

# 2SK715

## Outline Drawing

2SK715U-AC, 2SK715V-AC



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