



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

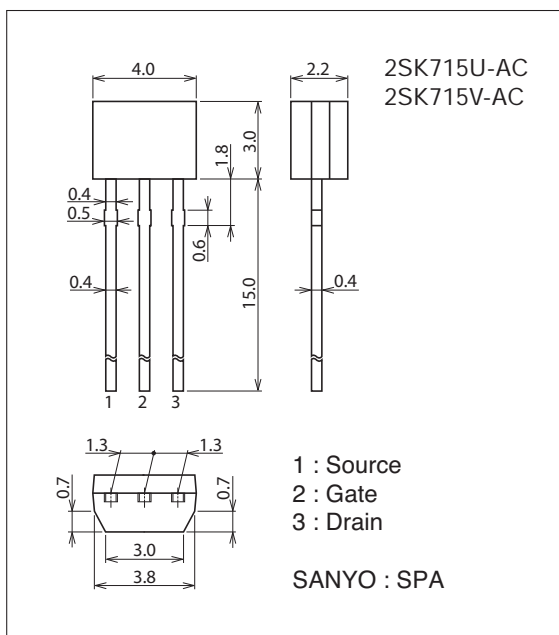
Absolute Maximum Ratings at Ta=25°C

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	°C
Storage Temperature	T _{stg}		-55 to +125	°C

Package Dimensions

unit : mm (typ)

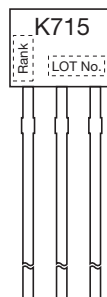
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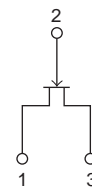
Product & Package Information

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

Marking



Electrical Connection



2SK715

Electrical Characteristics at Ta=25°C

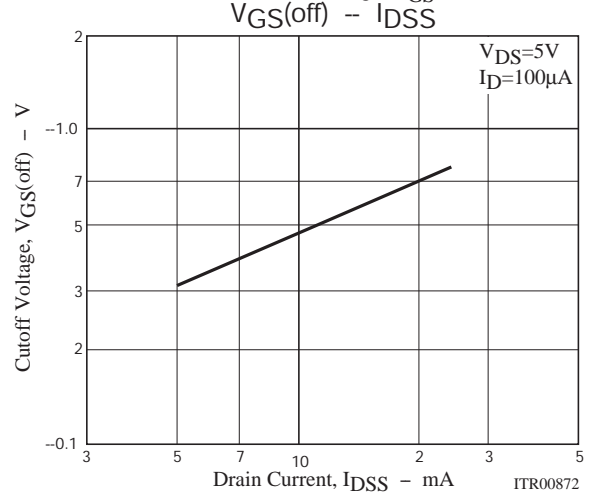
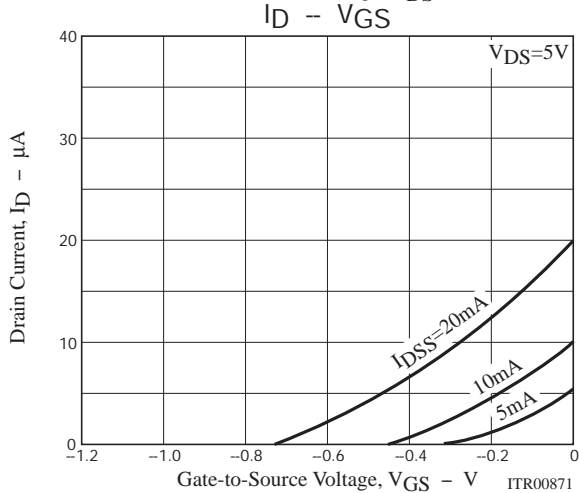
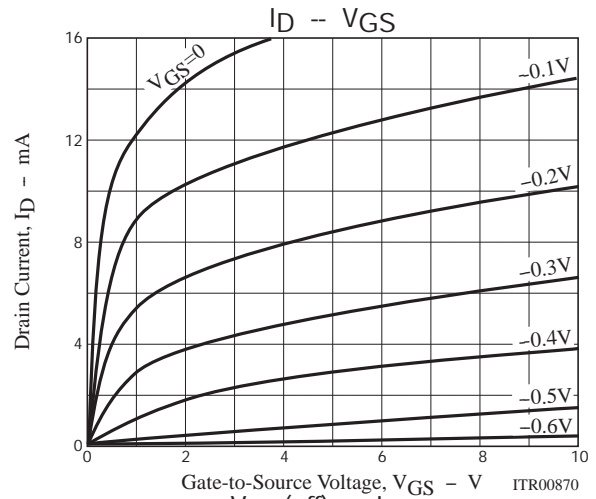
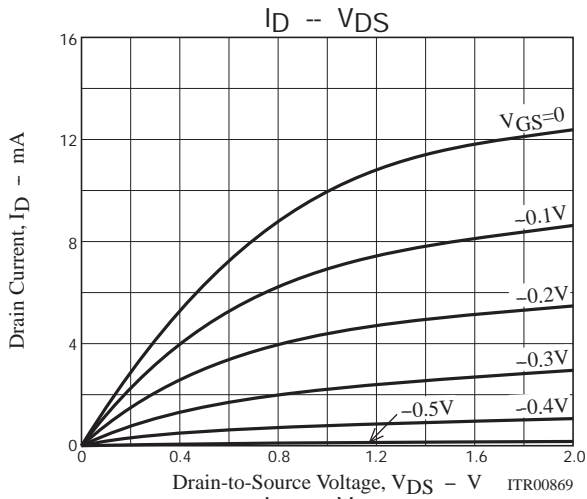
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Gate-to-Drain Breakdown Voltage	V(BR)GD _S	I _G =-10μA, V _{DS} =0V	-15			V
Gate-to-Source Leakage Current	I _{GSS}	V _{GS} =-10V, V _{DS} =0V			-1.0	nA
Zero-Gate Voltage Drain Current	I _{DSS} *	V _{DS} =5V, V _{GS} =0V	5.0*		24.0*	mA
Cutoff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

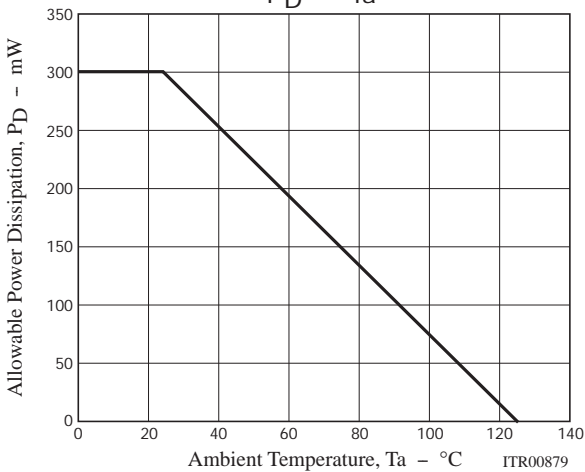
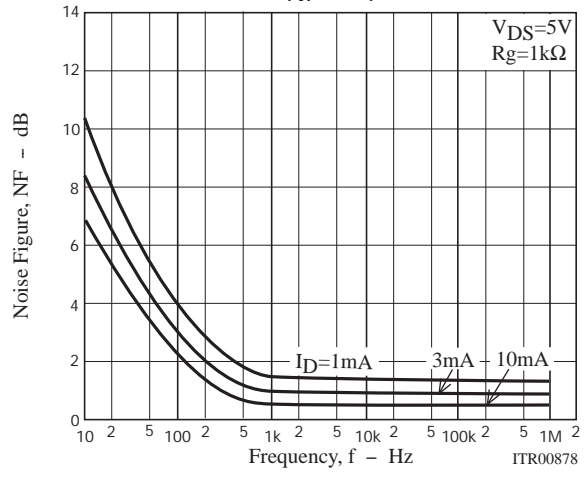
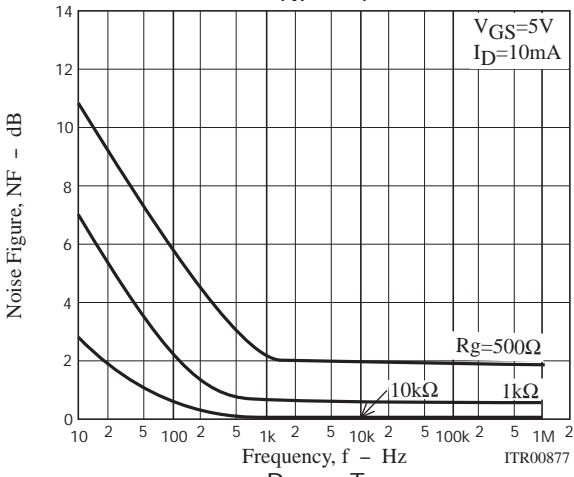
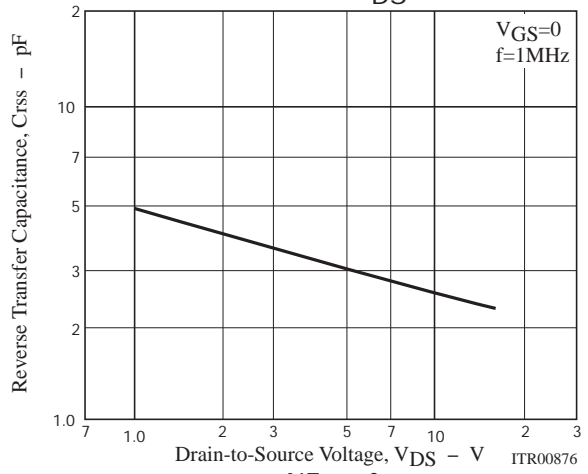
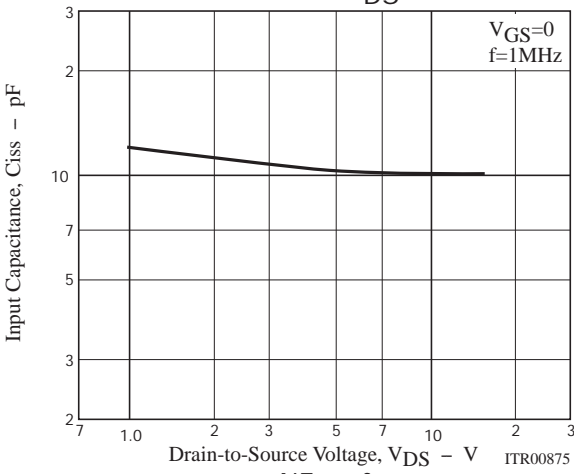
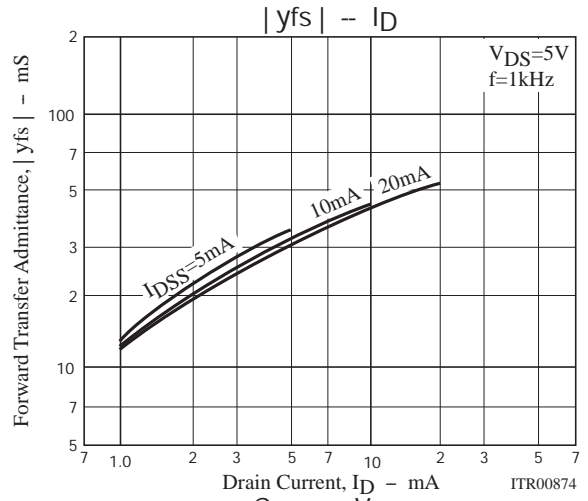
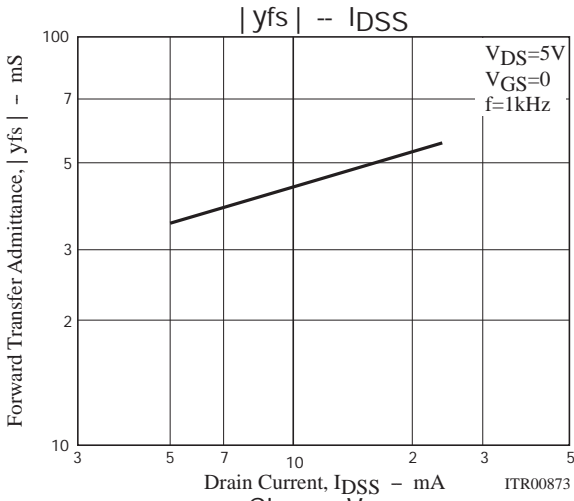
* : The 2SK715 is classified by I_{DSS} as follows : (unit : mA)

Rank	T	U	V	W
I _{DSS}	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	





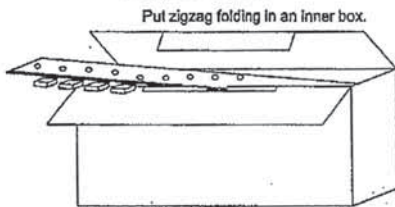
Taping Specification

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

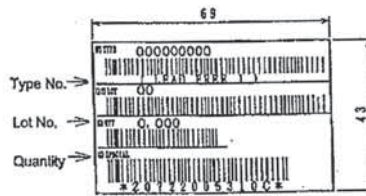
1. Packing format

Packing method



Sample bar code label

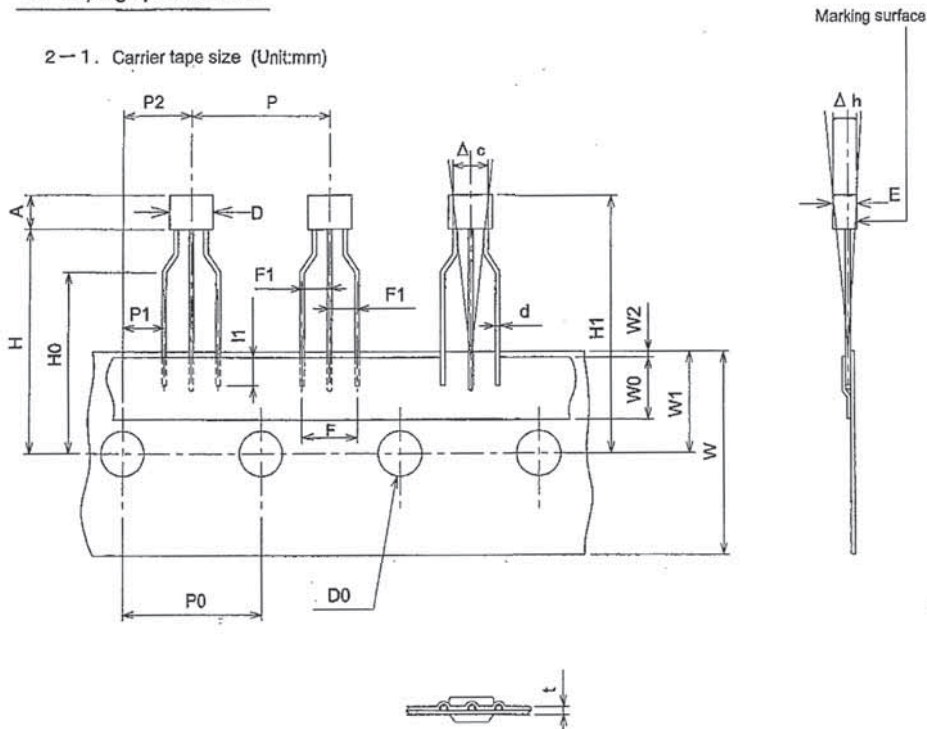
(Unit : mm)



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

2. Taping specifications

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

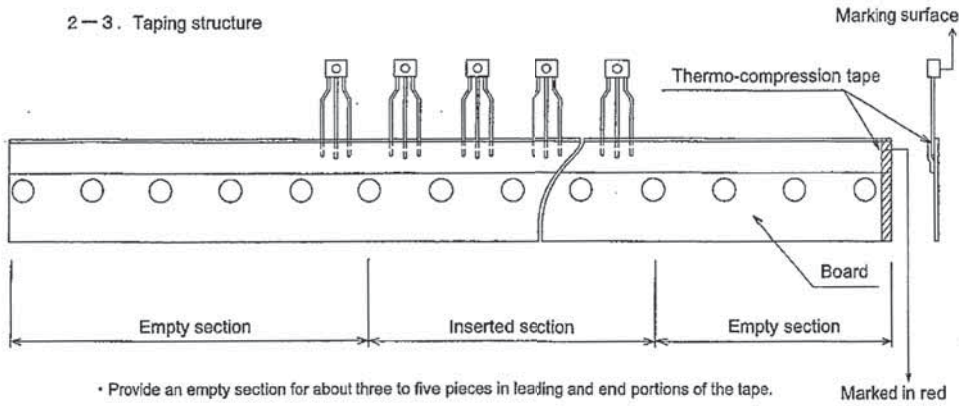


2-2. Taping size standard

Unit:mm

Item	Symbol	Standard	Tolerance	Item	Symbol	Standard	Tolerance
Work piece outside diameter	D	4.0	±0.2	Tape width	W	18.0	+1.0 -0.5
	E	2.2	±0.2	Adhesive tape	W0	6.0	±1.0
Work piece height	A	3.0	±0.2	Displacement of perforations	W1	9.0	+0.75 -0.5
Lead wire diameter	d	0.4 × 0.4 t	±0.1	Work piece bottom surface position	H	19.8	+1.0 -0.3
Bonded lead wire	l1	2.5MIN		Lead wire clinch height	H0	16.0	±0.5
Pitch between products	P	12.7	±1.0	Work piece upper limit position	H1	22.8	±1.5
Pitch between perforations	P0	12.7	±0.2	Perforations diameter	D0	φ4.0	±0.2
Total pitch for 21 perforations	P0 × 20	254.0	±1.0	Tape thickness (total thickness)	t	0.6	±0.2
Distance between lead wire	F	5.0	+0.8 -0.2	Product inclination	Δ c	0	±1.0
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	To be measured at a position below the clinch			
	P2	6.35	±0.3				
Displacement of tape	W2	0.5MAX		Not to be displaced to the outside of the board			

2-3. Taping structure

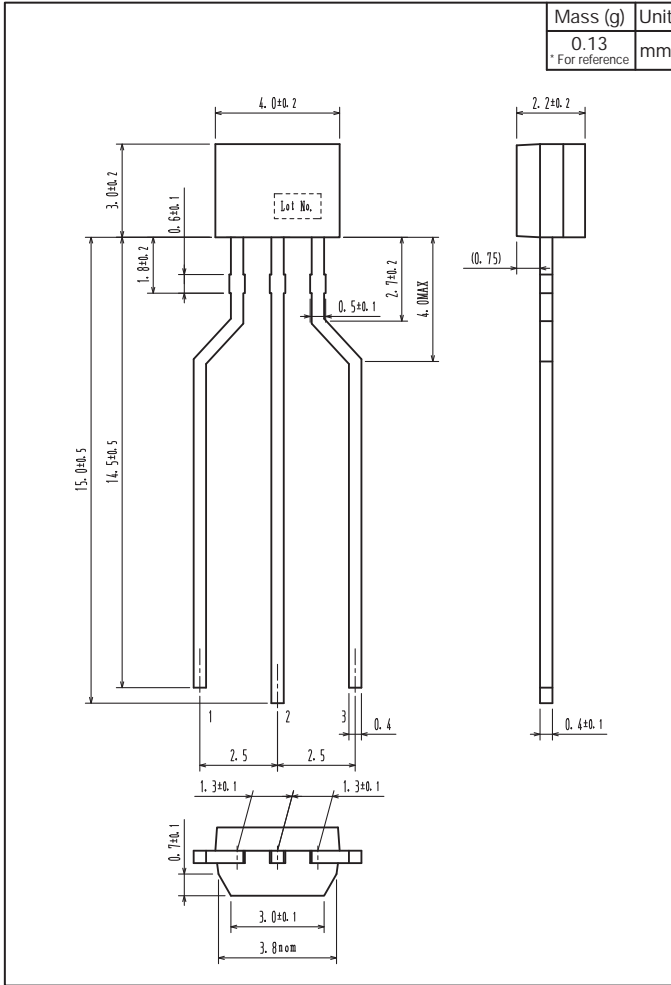


- Provide an empty section for about three to five pieces in leading and end portions of the tape.
- Provide marking in red to the E-side end of the board.

2SK715

Outline Drawing

2SK715U-AC, 2SK715V-AC



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