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2SK715

N-Channel JFET 15V, 5 to 24mA, 50mS, SPA

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 $T_a=25^\circ\text{C}$

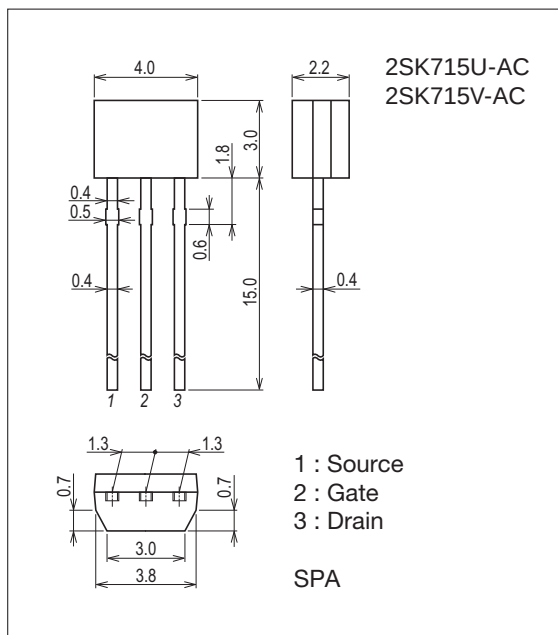
Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V_{DS}		15	V
Gate-to-Drain Voltage	V_{GDS}		-15	V
Gate Current	I_G		10	mA
Drain Current	I_D		50	mA
Allowable Power Dissipation	P_D		300	mW
Junction Temperature	T_j		125	$^\circ\text{C}$
Storage Temperature	T_{stg}		-55 to +125	$^\circ\text{C}$

Stresses exceeding Maximum Ratings may damage the device. Maximum Ratings are stress ratings only. Functional operation above the Recommended Operating Conditions is not implied. Extended exposure to stresses above the Recommended Operating Conditions may affect device reliability.

Package Dimensions

unit : mm (typ)

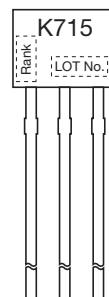
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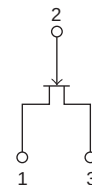
Product & Package Information

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

Marking



Electrical Connection



Electrical Characteristics at Ta=25°C

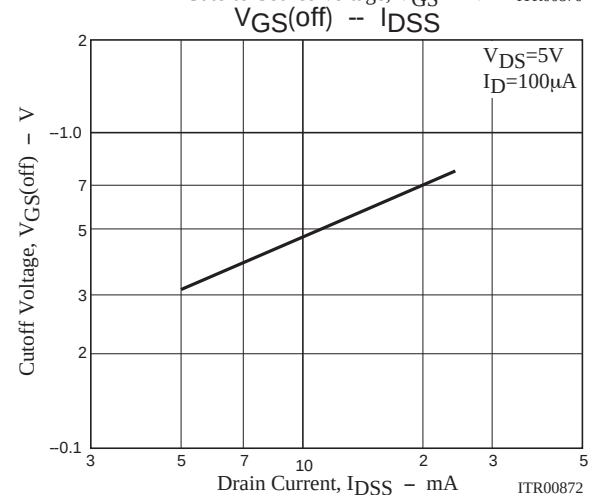
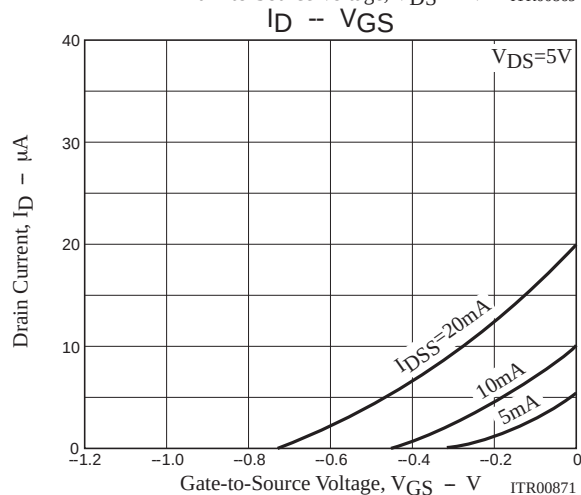
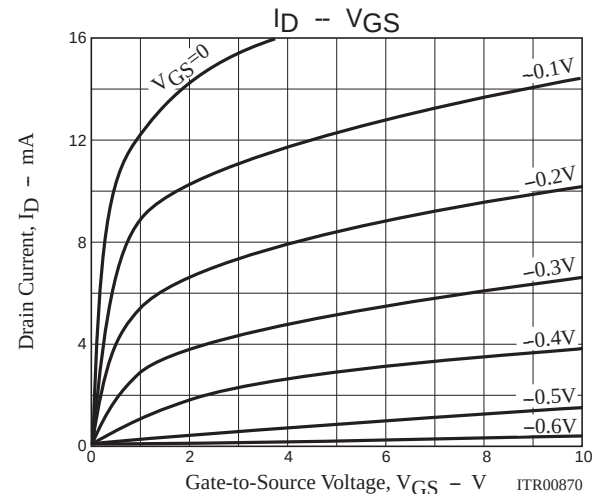
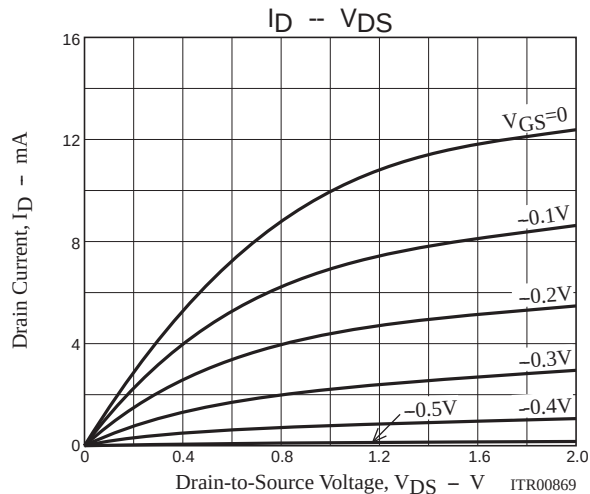
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Gate-to-Drain Breakdown Voltage	$V_{(BR)GDS}$	$I_G = -10\mu A$, $V_{DS} = 0V$	-15			V
Gate-to-Source Leakage Current	I_{GSS}	$V_{GS} = -10V$, $V_{DS} = 0V$			-1.0	nA
Zero-Gate Voltage Drain Current	I_{DSS}^*	$V_{DS} = 5V$, $V_{GS} = 0V$	5.0*		24.0*	mA
Cutoff Voltage	$V_{GS(off)}$	$V_{DS} = 5V$, $I_D = 100\mu A$		-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	$V_{DS} = 5V$, $R_g = 1k\Omega$, $I_D = 1mA$, $f = 1kHz$		1.5		dB

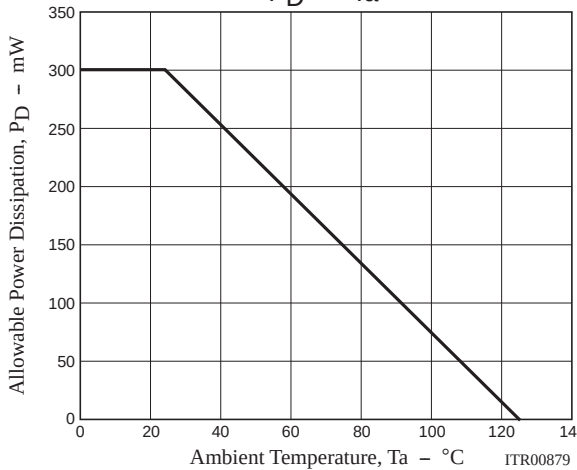
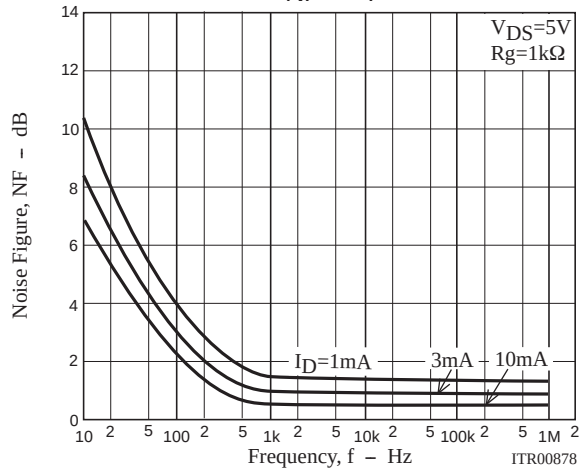
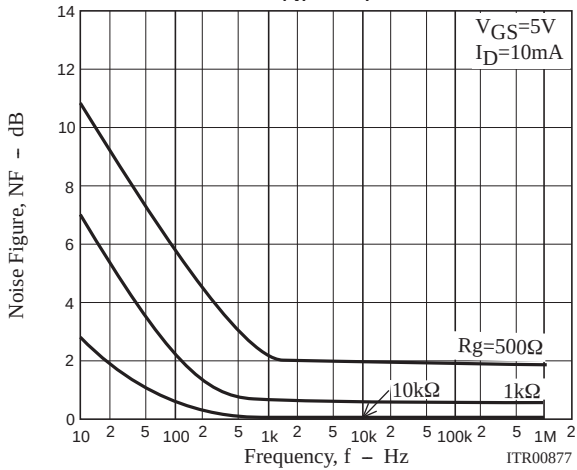
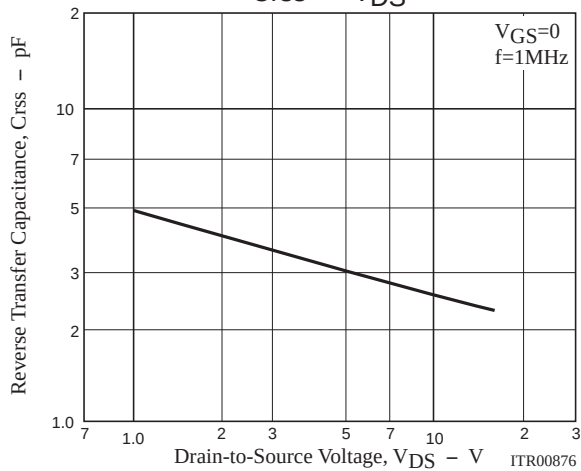
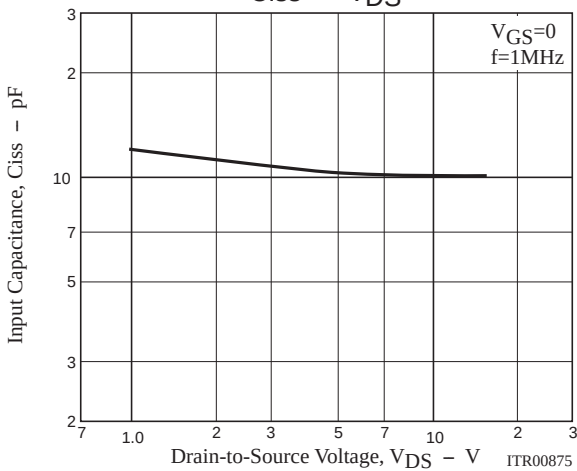
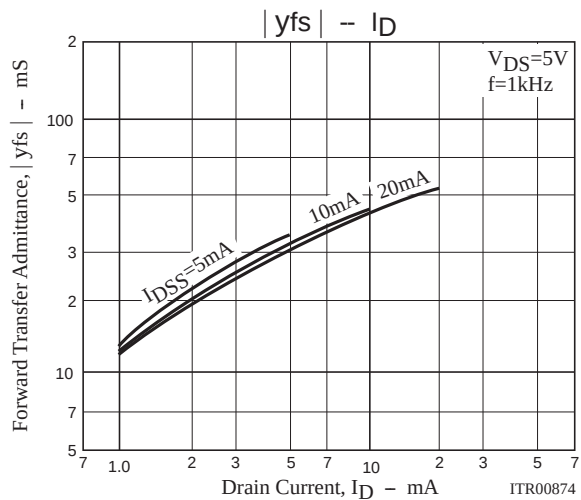
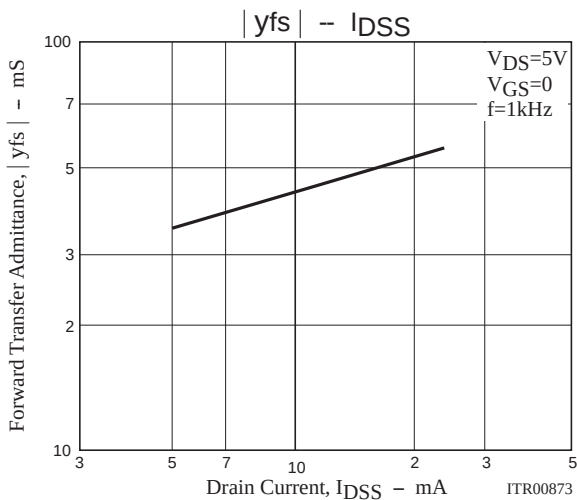
* : The 2SK715 is classified by I_{DSS} as follows : (unit : mA)

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

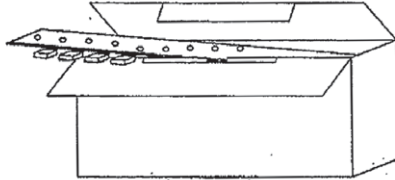
2SK715U-AC, 2SK715V-AC

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(19,200pcs.) Outer box Dimensions:mm(external) 585×345×200	8 inner boxes contained(9,600pcs.) Outer box Dimensions:mm(internal) 345×300×200

1. Packing format

Packing method

Put zigzag folding in an inner box.



Sample bar code label

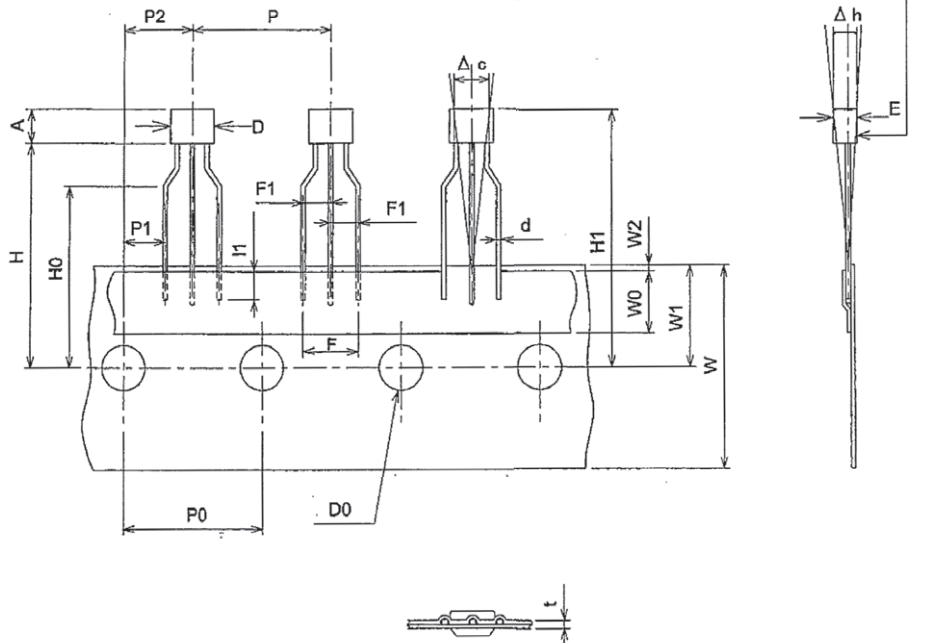
(Unit : mm)



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

2. Taping specifications

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

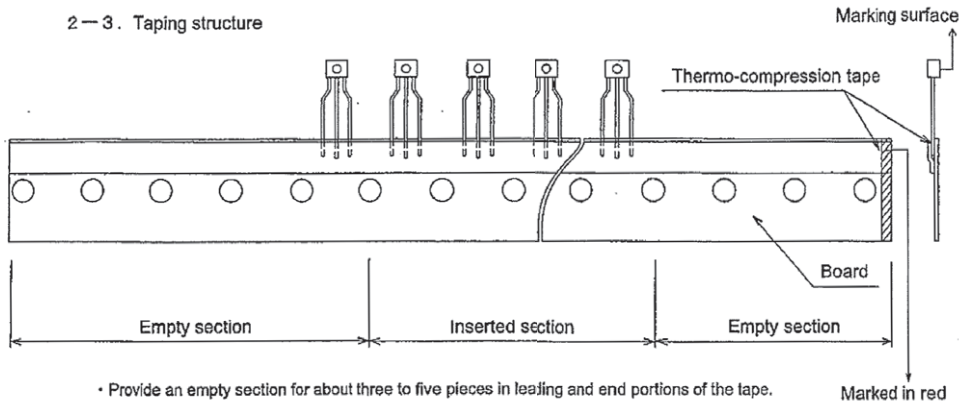


2-2. Taping size standard

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			

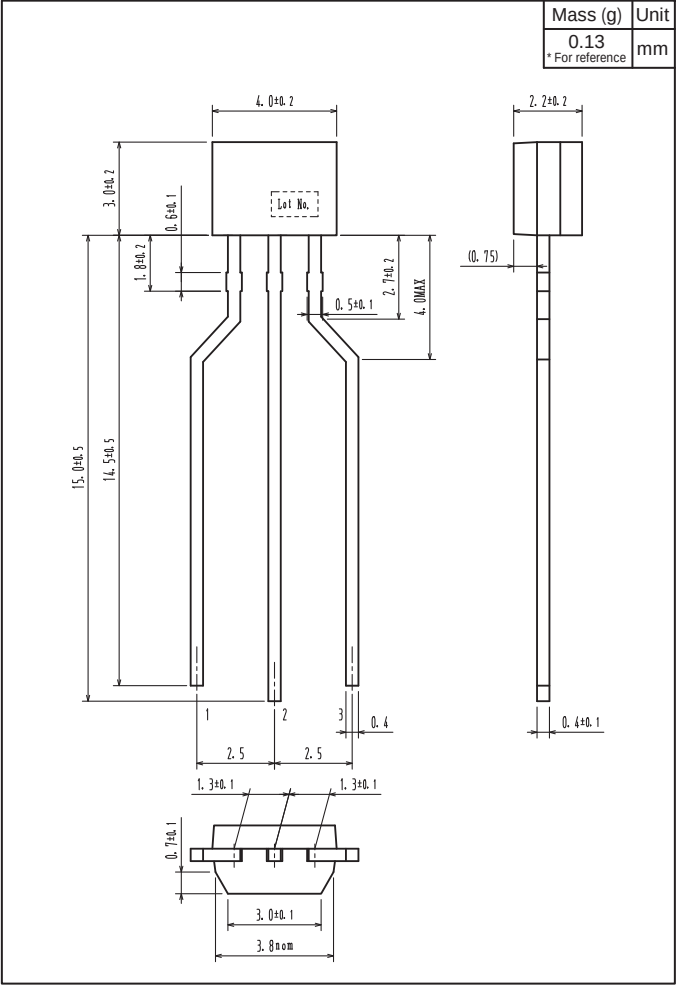
2-3. Taping structure



- 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.

Outline Drawing

2SK715U-AC, 2SK715V-AC



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