Ordering number : EN2543A

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 |yfs|
- Small Ciss
- Very low noise figure

Specifications

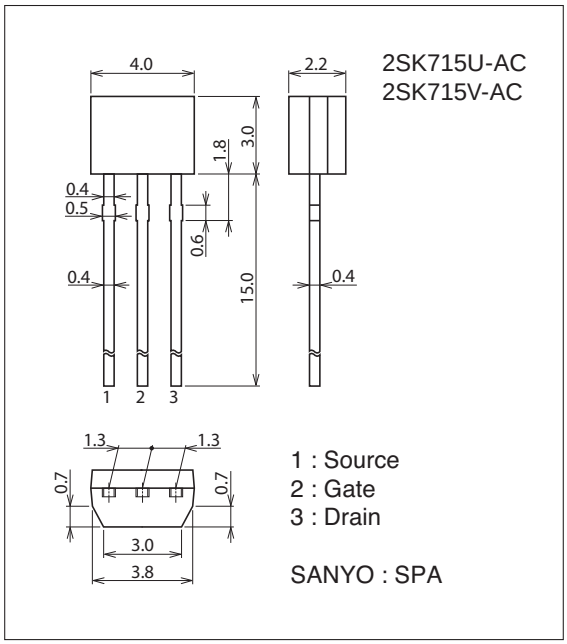
Absolute Maximum Ratings at Ta=25°C

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	Tj		125	°C
Storage Temperature	Tstg		−55 to +125	°C

Package Dimensions

unit : mm (typ)

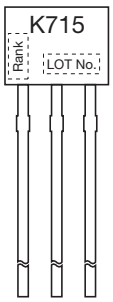
7524-005



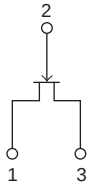
Product & Package Information

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

Marking



Electrical Connection



Electrical Characteristics at Ta=25°C

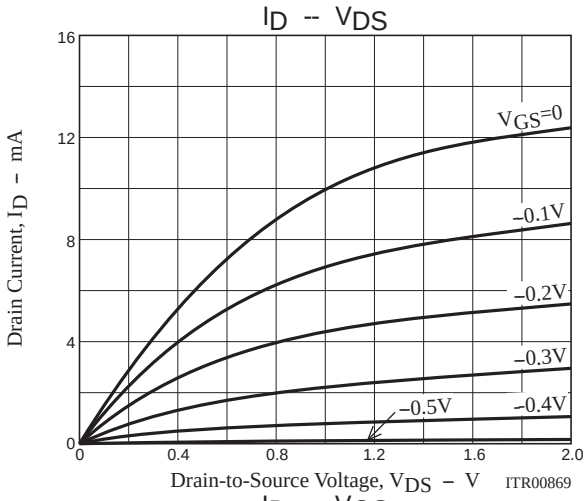
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Gate-to-Drain Breakdown Voltage	$V_{(BR)GDS}$	I_G=−10μA, V_{DS}=0V	−15			V
Gate-to-Source Leakage Current	I_{GSS}	V_{GS}=−10V, V_{DS}=0V			−1.0	nA
Zero-Gate Voltage Drain Current	I_{DSS}*	V_{DS}=5V, V_{GS}=0V	5.0*		24.0*	mA
Cutoff Voltage	$V_{GS(off)}$	V_{DS}=5V, I_D=100μA		−0.6	−1.4	V
Forward Transfer Admittance	| yfs |	V_{DS}=5V, V_{GS}=0V, f=1kHz	25	50		mS
Input Capacitance	Ciss			10		pF
Reverse Transfer Capacitance	Crss			3.0		pF
Noise Figure	NF	V_{DS}=5V, R_g=1kΩ, I_D=1mA, f=1kHz		1.5		dB

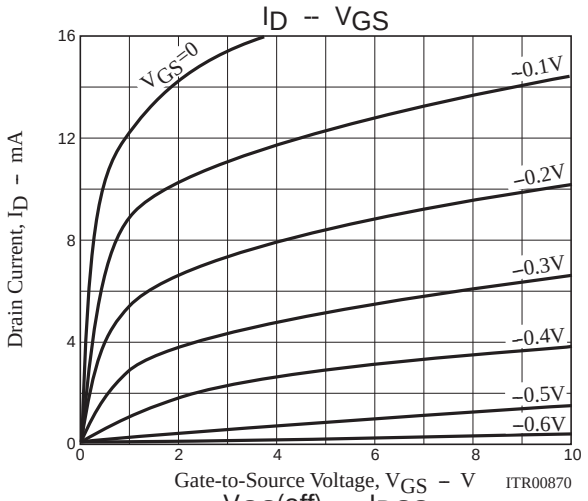
* : The 2SK715 is classified by I_{DSS} as follows : (unit : mA)

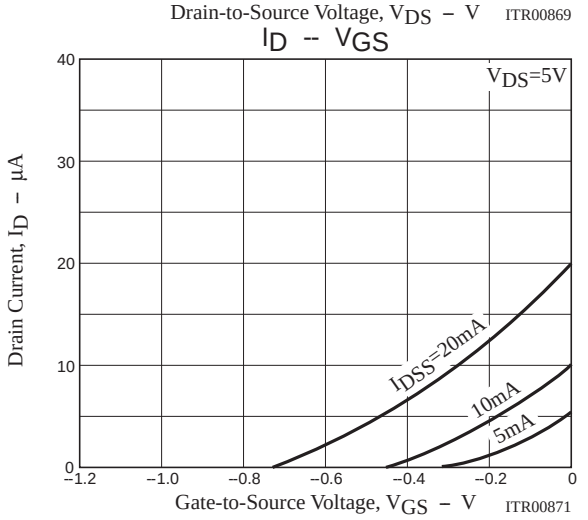
Rank	T	U	V	W
I_{DSS}	5.0 to 8.5	7.3 to 12.0	10.0 to 17.0	14.5 to 24.0

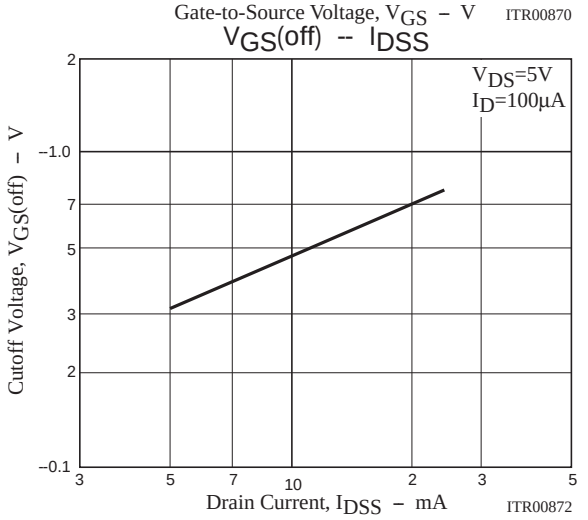
Ordering Information

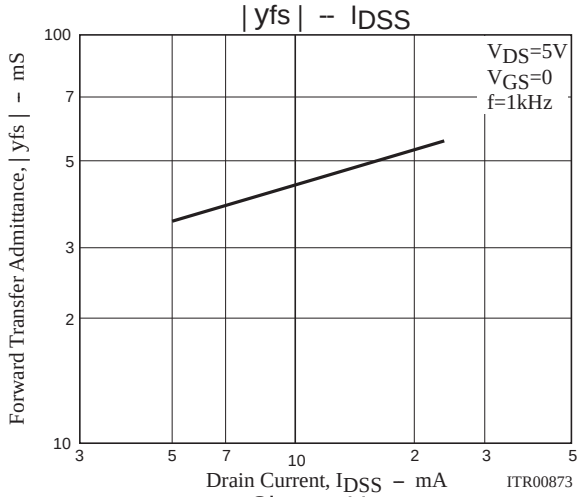
Device	Package	Shipping	memo
2SK715U-AC	SPA	2,500pcs./box	Pb Free
2SK715V-AC	SPA	2,500pcs./box	

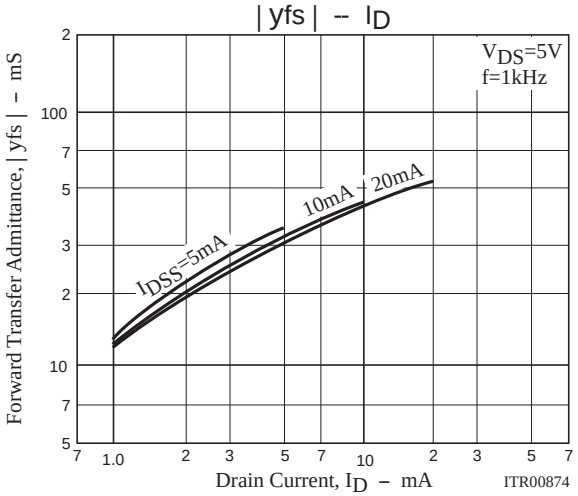


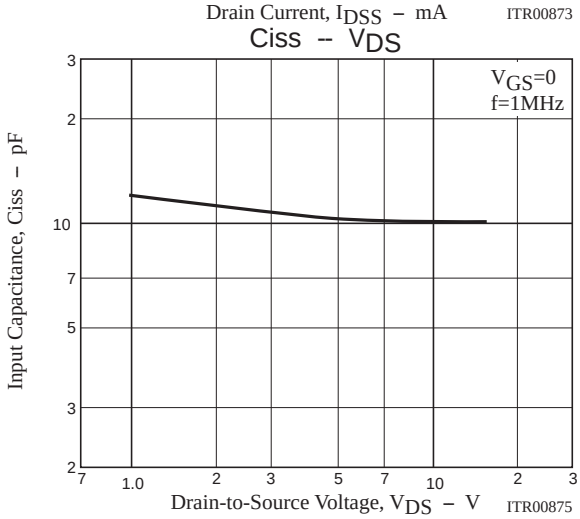


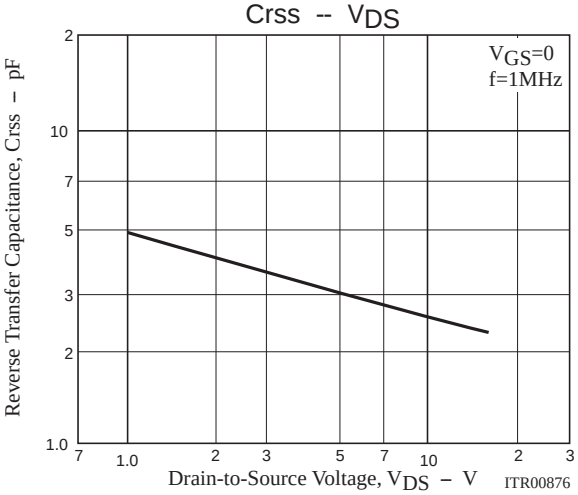


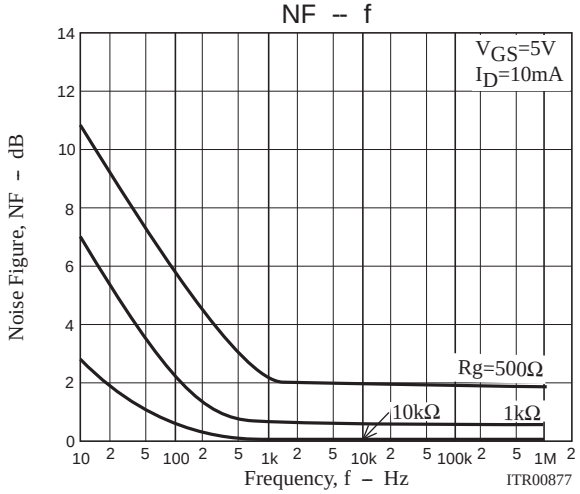


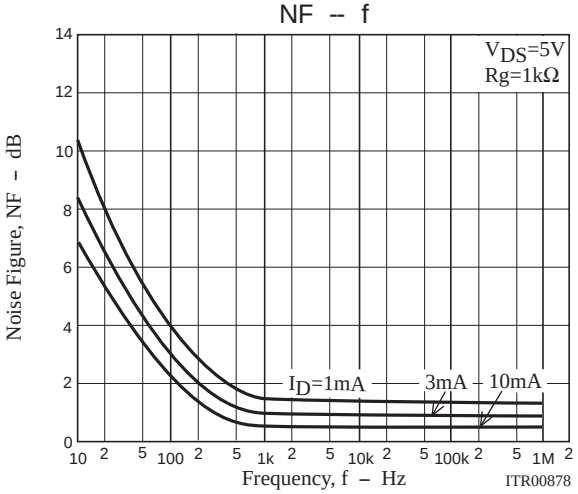

| yfs | -- IDSS
VDS=5V
VGS=0
f=1kHz
Forward Transfer Admittance, | yfs | – mS
Drain Current, IDSS – mA
ITR00873

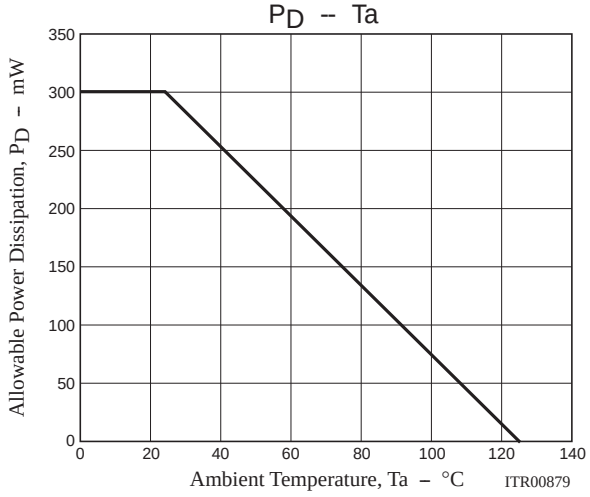

| yfs | -- ID
VDS=5V
f=1kHz
IDSS=5mA
10mA
20mA
Forward Transfer Admittance, | yfs | – mS
Drain Current, ID – mA
ITR00874


Ciss -- VDS
VGS=0
f=1MHz
Input Capacitance, Ciss – pF
Drain-to-Source Voltage, VDS – V
ITR00875


Crss -- VDS
VGS=0
f=1MHz
Reverse Transfer Capacitance, Crss – pF
Drain-to-Source Voltage, VDS – V
ITR00876


NF -- f
VGS=5V
ID=10mA
Rg=500Ω
10kΩ
1kΩ
Noise Figure, NF – dB
Frequency, f – Hz
ITR00877


NF -- f
VDS=5V
Rg=1kΩ
ID=1mA
3mA
10mA
Noise Figure, NF – dB
Frequency, f – Hz
ITR00878


PD -- Ta
Allowable Power Dissipation, PD – mW
Ambient Temperature, Ta – °C
ITR00879

Taping Specification

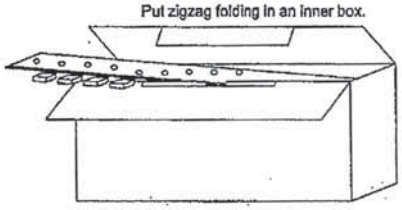
2SK715U-AC, 2SK715V-AC

Storage package Outline name	Package type	Maximum Number of devices contained(pcs.) Inner box No.	Storage quantity	Packing format 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(9,600 pcs.) Outer box Dimensions:mm(internal) 345×300×200

1. Packing format

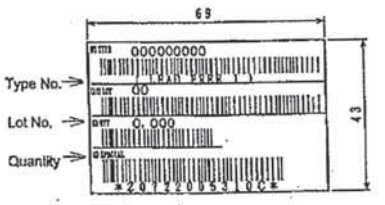
Packing method

Put zigzag folding in an inner box.



Sample bar code label

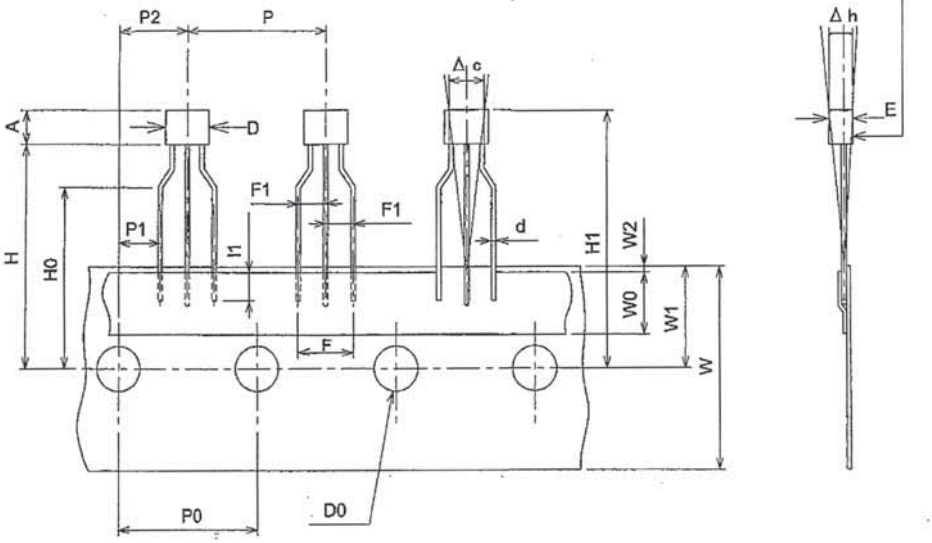
(Unit : mm)



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

2. Taping specifications

2—1. Carrier tape size (Unit:mm)



Marking surface

2－2．Taping size standard

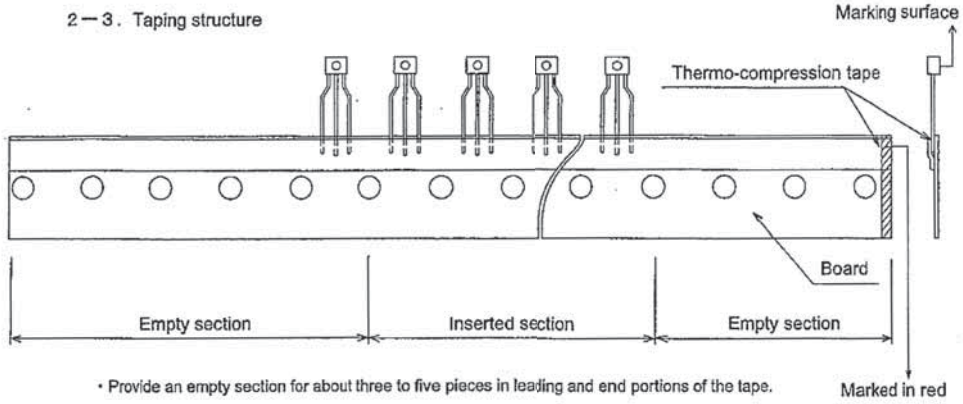
Unit:mm

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	Δh	0	±2.0
Displacement of perforations	P1	3.85	±0.3
	P2	6.35	±0.3
Displacement of tape	W2	0.5MAX	

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	φ4.0	±0.2	
Tape thickness (total thickness)	t	0.6	±0.2	
Product inclination	Δc	0	±1.0	To be measured at a position below the clinch

Not to be displaced to the outside of the board

2－3．Taping structure

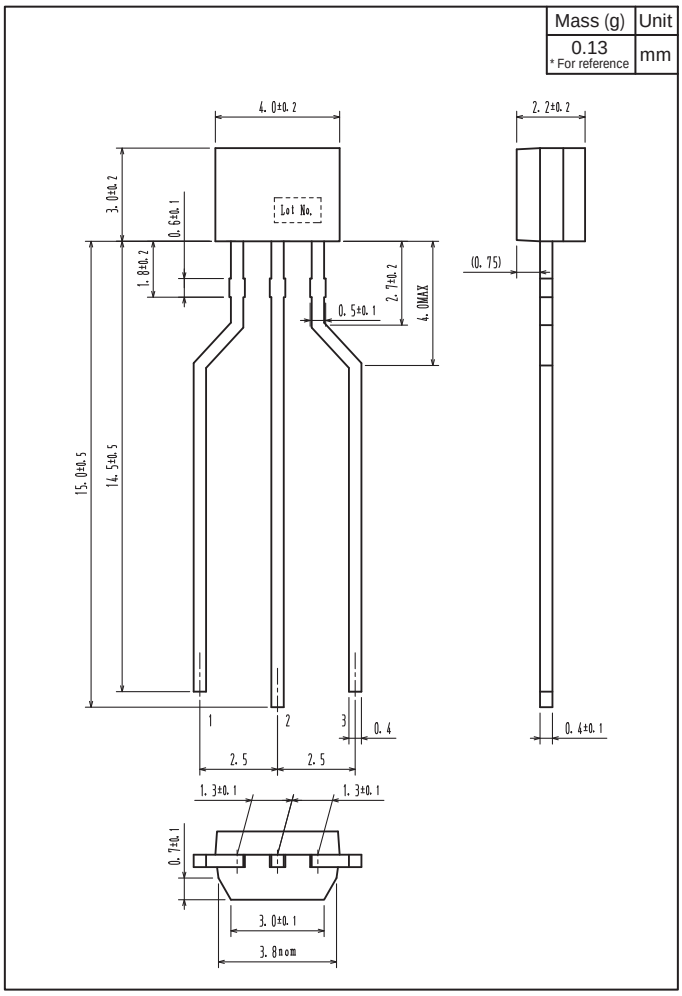


・Provide an empty section for about three to five pieces in leading and end portions of the tape.

・Provide marking in red to the E-side end of the board.

Outline Drawing

2SK715U-AC, 2SK715V-AC



This catalog provides information as of November, 2012. Specifications and information herein are subject to change without notice.