

# UTC UNISONIC TECHNOLOGIES CO., LTD

**TF215 Preliminary JFET** 

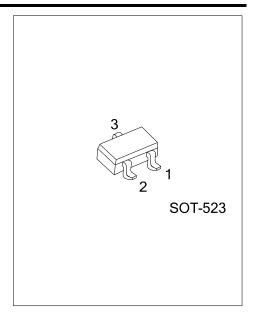
# N-CHANNEL JUNCTION FIELD **EFFECT TRANSISTOR**

#### **DESCRIPTION**

The UTC TF215 is an N-channel junction field effect transistor, and it can be specially used in electronic condenser microphone.

#### **FEATURES**

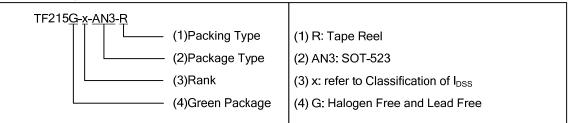
\* Good voltage characteristics and transient characteristics.



#### ORDERING INFORMATION

Oudering Number	Darling	Pin Assignment			Doolsing	
Ordering Number	Package	1	2	3	Packing	
TF215G-x-AN3-R	SOT-523	S	D	G	Tape Reel	

Note: Pin Assignment: S: Source G: Gate D: Drain



#### **MARKING**

TF215-E3	TF215-E4	TF215-E5
E3	E4	E5

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### ■ ABSOLUTE MAXIMUM RATING (T<sub>A</sub>=25°C, unless otherwise specified)

PARAMETER	SYMBOL	RATINGS	UNIT
Gate to Drain Voltage	$V_{ ext{GDO}}$	-20	V
Gate Current	I <sub>G</sub>	10	mA
Drain Current	I <sub>D</sub>	1	mA
Power Dissipation	$P_D$	100	mW
Junction Temperature	TJ	150	°C
Storage Temperature	T <sub>STG</sub>	-55~+150	°C

Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.

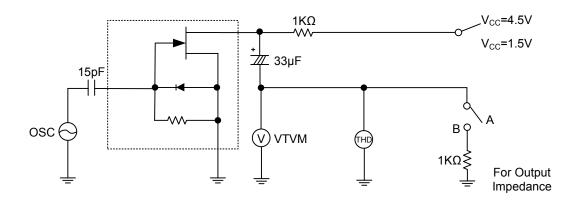
# ■ ELECTRICAL CHARACTERISTICS (T<sub>A</sub>=25°C, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
G-D Breakdown Voltage	$BV_GDO$	I <sub>G</sub> =-100μA	-20			V
Gate Off Voltage	$V_{GS(OFF)}$	$V_{DS}$ =5.0V, $I_D$ =1 $\mu$ A	-0.2	-0.6	-1.0	V
Drain Current	$I_{DSS}$	V <sub>DS</sub> =5.0V, V <sub>GS</sub> =0	100		350	μΑ
Forward Transfer Admittance	[YFS]	V <sub>DS</sub> =2.0V, V <sub>GS</sub> =0, f=1KHz	8.0	1.2		mS
Input Capacitance	CISS	V <sub>DS</sub> =5.0V, V <sub>GS</sub> =0, f=1MHz		3.5		pF
Reverse Transfer Capacitance	CRSS	V <sub>DS</sub> =5.0V, V <sub>GS</sub> =0, f=1MHz		0.65		pF
Voltage Gain	$G_V$	V <sub>IN</sub> =10mV, f=1KHz		-3.0		dB
Reduced Voltage Characteristic	riangleGvv	V <sub>IN</sub> =10mV, f=1KHz V <sub>CC</sub> =4.5→1.5V		-1.2	-3.5	dB
Frequency Characteristic	riangleG <sub>Vf</sub>	f=1KHz~110Hz			-1.0	dB
Input Resistance	$Z_{IN}$	f=1KHz	25			ΜΩ
Output Resistance	Zo	f=1KHz		1000		Ω
Total Harmonic Distortion	THD	V <sub>IN</sub> =30mV, f=1KHz		1.2		%
Output Noise Voltage	$V_{NO}$	V <sub>IN</sub> =0, A Curve	•		-110	dB

# CLASSIFICATION OF I<sub>DSS</sub>

RANK	E3	E4	E5
RANGE	100-170	140-240	210-350

#### ■ TEST CIRCUIT (T<sub>A</sub>=25°C)



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