

**TF215**

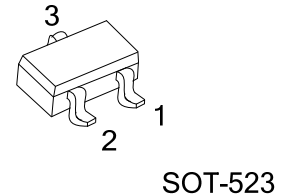
Preliminary

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**

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

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

TF215G-x-AN3-R	(1) Packing Type (2) Package Type (3) Rank (4) Green Package	(1) R: Tape Reel (2) AN3: SOT-523 (3) x: refer to Classification of I_{DSS} (4) G: Halogen Free and Lead Free
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MARKING

TF215-E3	TF215-E4	TF215-E5

■ **ABSOLUTE MAXIMUM RATING** ($T_A=25^{\circ}\text{C}$, unless otherwise specified)

PARAMETER	SYMBOL	RATINGS	UNIT
Gate to Drain Voltage	V_{GDO}	-20	V
Gate Current	I_G	10	mA
Drain Current	I_D	1	mA
Power Dissipation	P_D	100	mW
Junction Temperature	T_J	150	$^{\circ}\text{C}$
Storage Temperature	T_{STG}	-55~+150	$^{\circ}\text{C}$

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.

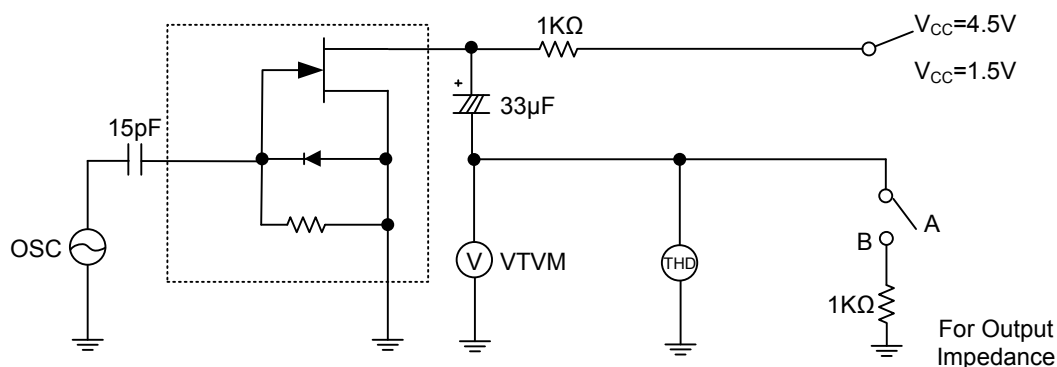
■ **ELECTRICAL CHARACTERISTICS** ($T_A=25^{\circ}\text{C}$, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
G-D Breakdown Voltage	BV_{GDO}	$I_G=-100\mu\text{A}$	-20			V
Gate Off Voltage	$V_{GS(OFF)}$	$V_{DS}=5.0\text{V}$, $I_D=1\mu\text{A}$	-0.2	-0.6	-1.0	V
Drain Current	I_{DSS}	$V_{DS}=5.0\text{V}$, $V_{GS}=0$	100		350	μA
Forward Transfer Admittance	$ Y_{FS} $	$V_{DS}=2.0\text{V}$, $V_{GS}=0$, $f=1\text{KHz}$	0.8	1.2		mS
Input Capacitance	C_{ISS}	$V_{DS}=5.0\text{V}$, $V_{GS}=0$, $f=1\text{MHz}$		3.5		pF
Reverse Transfer Capacitance	C_{RSS}	$V_{DS}=5.0\text{V}$, $V_{GS}=0$, $f=1\text{MHz}$		0.65		pF
Voltage Gain	G_V	$V_{IN}=10\text{mV}$, $f=1\text{KHz}$		-3.0		dB
Reduced Voltage Characteristic	ΔG_{VV}	$V_{IN}=10\text{mV}$, $f=1\text{KHz}$ $V_{CC}=4.5 \rightarrow 1.5\text{V}$		-1.2	-3.5	dB
Frequency Characteristic	ΔG_{Vf}	$f=1\text{KHz} \sim 110\text{Hz}$			-1.0	dB
Input Resistance	Z_{IN}	$f=1\text{KHz}$	25			$\text{M}\Omega$
Output Resistance	Z_O	$f=1\text{KHz}$		1000		Ω
Total Harmonic Distortion	THD	$V_{IN}=30\text{mV}$, $f=1\text{KHz}$		1.2		%
Output Noise Voltage	V_{NO}	$V_{IN}=0$, A Curve			-110	dB

■ **CLASSIFICATION OF I_{DSS}**

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

■ TEST CIRCUIT ($T_A=25^\circ\text{C}$)



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