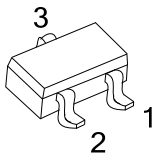
N-CHANNEL JUNCTION FIELD EFFECT TRANSISTOR



SOT-523

■ 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

■ MARKING

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

■ ABSOLUTE MAXIMUM RATING (T_A=25°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	°C
Storage Temperature	T_{STG}	-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_A=25°C, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
G-D Breakdown Voltage	BV_{GDO}	I_G=-100μA	-20			V
Gate Off Voltage	$V_{GS(OFF)}$	V_{DS}=5.0V, I_D=1μA	-0.2	-0.6	-1.0	V
Drain Current	I_{DSS}	V_{DS}=5.0V, V_{GS}=0	100		350	μA
Forward Transfer Admittance	|YFS|	V_{DS}=2.0V, V_{GS}=0, f=1KHz	0.8	1.2		mS
Input Capacitance	CISS	V_{DS}=5.0V, V_{GS}=0, f=1MHz		3.5		pF
Reverse Transfer Capacitance	CRSS	V_{DS}=5.0V, V_{GS}=0, f=1MHz		0.65		pF
Voltage Gain	G_V	V_{IN}=10mV, f=1KHz		-3.0		dB
Reduced Voltage Characteristic	$\triangle G_{VV}$	V_{IN}=10mV, f=1KHz V_{CC}=4.5→1.5V		-1.2	-3.5	dB
Frequency Characteristic	$\triangle G_{Vf}$	f=1KHz~110Hz			-1.0	dB
Input Resistance	Z_{IN}	f=1KHz	25			MΩ
Output Resistance	Z_O	f=1KHz		1000		Ω
Total Harmonic Distortion	THD	V_{IN}=30mV, f=1KHz		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°C)