



# TF218

JFET

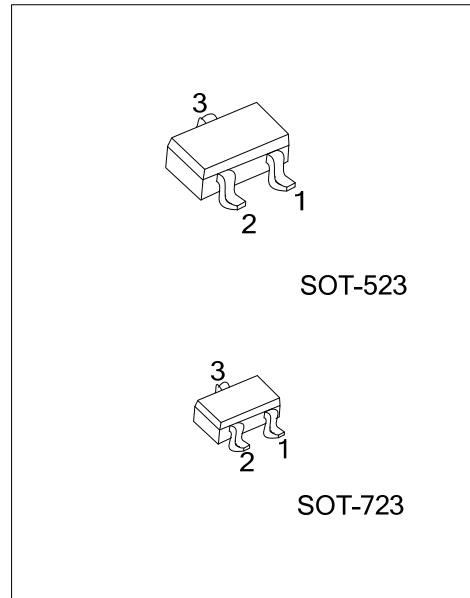
## N-CHANNEL JUNCTION FIELD EFFECT TRANSISTOR

### DESCRIPTION

The UTC **TF218** is an N-channel junction field effect transistor, and it can be specially used in electronic condenser microphone specially.

### FEATURES

\* Good voltage characteristics and transient characteristics.



### ORDERING INFORMATION

Ordering Number	Package	Pin Assignment			Packing
		1	2	3	
TF218G-x-AN3-R	SOT-523	S	D	G	Tape Reel
TF218G-x-AQ3-R	SOT-723	S	D	G	Tape Reel

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

<p>TF218G-x-AN3-R</p> <p>(1) Packing Type (2) Package Type (3) Rank (4) Green Package</p>	<p>(1) R: Tape Reel (2) AN3: SOT-523, AQ3: SOT-723 (3) x: refer to Classification of <math>I_{DSS}</math> (4) G: Halogen Free and Lead Free</p>
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### MARKING

TF218-E3	TF218-E4	TF218-E5

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

PARAMETER	SYMBOL	RATINGS	UNIT
Gate to Drain Voltage	V <sub>GDO</sub>	-20	V
Gate Current	I <sub>G</sub>	10	mA
Drain Current	I <sub>D</sub>	1	mA
Power Dissipation	P <sub>D</sub>	100	mW
Junction Temperature	T <sub>J</sub>	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.

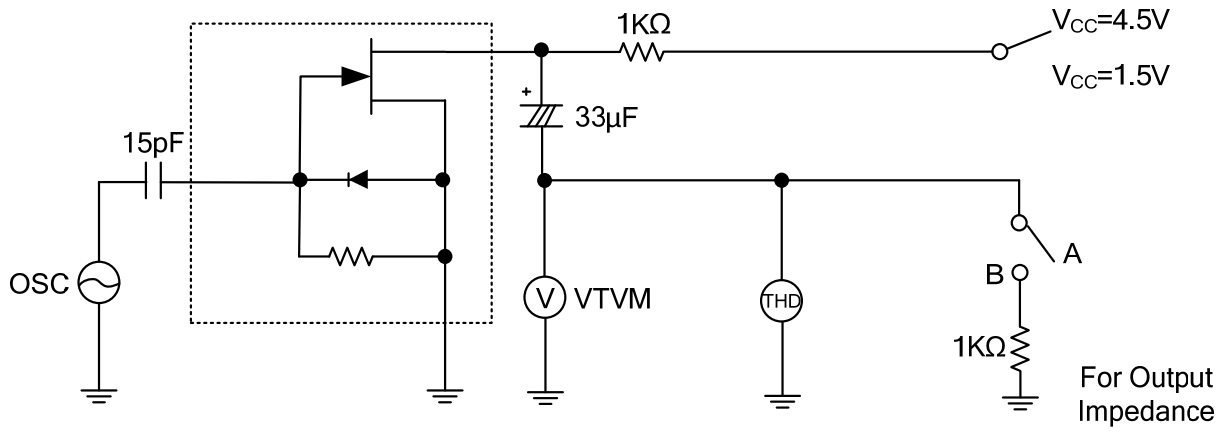
■ ELECTRICAL CHARACTERISTICS (T<sub>A</sub>=25°C, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
G-D Breakdown Voltage	BV <sub>GDO</sub>	I <sub>G</sub> =-100uA	-20			V
Gate Off Voltage	V <sub>GS(OFF)</sub>	V <sub>DS</sub> =5.0V, I <sub>D</sub> =1uA	-0.2	-0.6	-1.0	V
Drain Current	I <sub>DSS</sub>	V <sub>DS</sub> =2.0V, V <sub>GS</sub> =0	100		350	μA
Forward Transfer Admittance	YFS	V <sub>DS</sub> =2.0V, V <sub>GS</sub> =0, f=1KHz	0.65	1.0		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 <sub>V</sub>	V <sub>IN</sub> =10mV, f=1KHz		-3.0		dB
Reduced Voltage Characteristic	ΔG <sub>VV</sub>	V <sub>IN</sub> =10mV, f=1KHz V <sub>CC</sub> =4.5→1.5V		-1.2	-3.5	dB
Frequency Characteristic	ΔG <sub>Vf</sub>	f=1KHz~110Hz			-1.0	dB
Input Resistance	Z <sub>IN</sub>	f=1KHz	25			MΩ
Output Resistance	Z <sub>O</sub>	f=1KHz		1000		Ω
Total Harmonic Distortion	THD	V <sub>IN</sub> =30mV, f=1KHz		1.2		%
Output Noise Voltage	V <sub>NO</sub>	V <sub>IN</sub> =0, A Curve			-110	dB

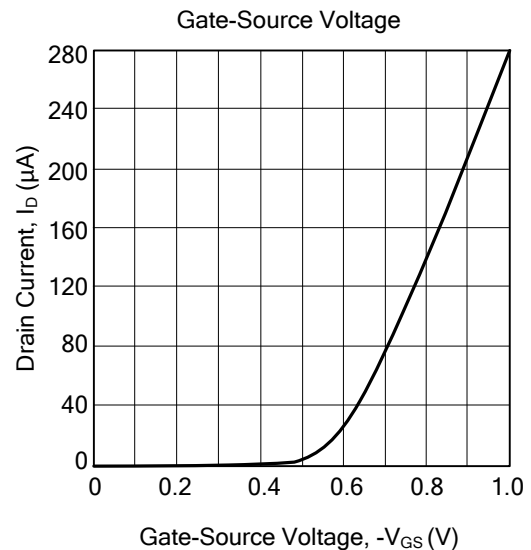
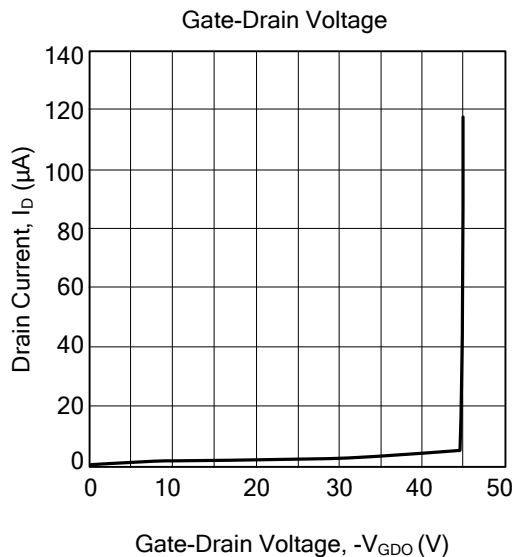
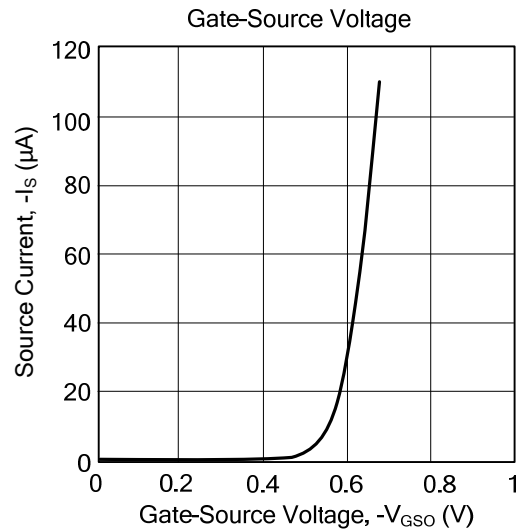
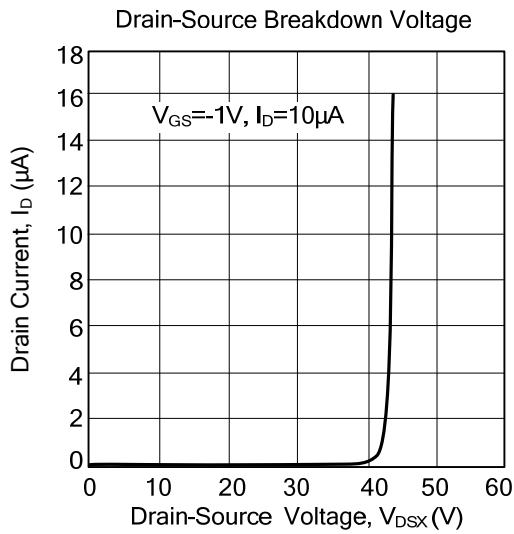
■ CLASSIFICATION OF I<sub>DSS</sub>

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

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



■ TYPICAL CHARACTERISTICS



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