



TF212

JFET

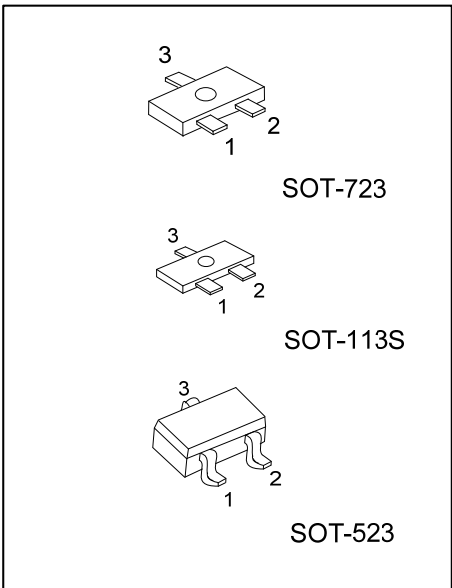
CAPACITOR MICROPHONE APPLICATIONS

DESCRIPTION

The UTC **TF212** uses advanced trench technology to provide excellent $R_{DS(ON)}$, low gate charge and operation with low gate voltages. This device is suitable for use in capacitor microphone applications.

FEATURES

- * Suited for use in audio, telephone capacitor microphones.
- * Good voltage characteristic.
- * Good transient characteristic.



ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
TF212L-xx-A3C-R	TF212G-xx-A3C-R	SOT-113S	D	S	G	Tape Reel
TF212L-xx-AN3-R	TF212G-xx-AN3-R	SOT-523	D	S	G	Tape Reel
TF212L-xx-AQ3-R	TF212G-xx-AQ3-R	SOT-723	D	S	G	Tape Reel

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

<p>TF212G-xx-AC3-R</p>	<p>(1) R: Tape Reel (2) A3C: SOT-113S, AN3: SOT-523, AQ3: SOT-723 (3) x: refer to Classification of I_{DSS} (4) G: Halogen Free and Lead Free, L: Lead Free</p>
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MARKING

TF212-F4	TF212-F5

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

PARAMETER	SYMBOL	RATING	UNIT
Gate 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.

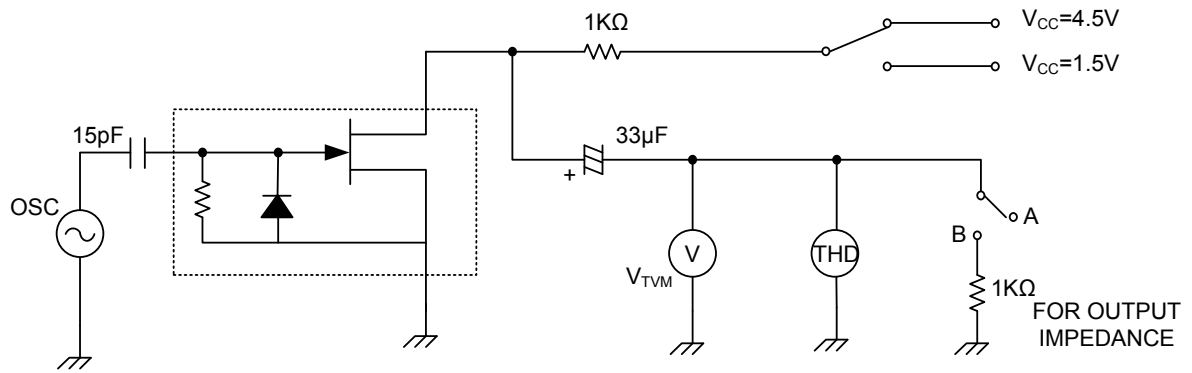
■ ELECTRICAL CHARACTERISTICS ($T_A=25^{\circ}\text{C}$, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Gate Drain Breakdown Voltage	BV_{GDO}	$I_G=-100\mu\text{A}$	-20			V
Gate Source Cut off Voltage	$V_{GS(OFF)}$	$V_{DS}=5\text{V}, I_D=1\mu\text{A}$	-0.2	-0.6	-1.2	V
Drain Current	I_{DSS}	$V_{DS}=5\text{V}, V_{GS}=0$	140		350	μA
Forward Transfer Admittance	Y_{FSI}	$V_{DS}=2\text{V}, V_{GS}=0, f=1\text{KHz}$	1	1.2		mS
Input Capacitance	C_{ISS}	$V_{DS}=5\text{V}, V_{GS}=0, f=1\text{MHz}$		3.5		pF
Output Capacitance	C_{RSS}	$V_{DS}=5\text{V}, V_{GS}=0, f=1\text{MHz}$		0.65		pF
Voltage Gain	G_V	$V_{IN}=10\text{mV}, f=1\text{KHz}$		-3		dB
Reduced Voltage Characteristic	ΔG_{VV}	$V_{IN}=10\text{mV}, f=1\text{KHz}, V_{CC}=4.5\text{V} \rightarrow 1.5\text{V}$		-1.2	-3.5	dB
Frequency Characteristic	ΔG_{Vf}	$f=1\text{KHz to } 110\text{Hz}$			-1	dB
Input Resistance	Z_{IN}	$f=1\text{KHz}$	25			M Ω
Output Resistance	Z_O	$f=1\text{KHz}$			700	Ω
Total Harmonic distortion	THD	$V_{IN}=30\text{mV}, f=1\text{KHz}$		1		%
Output Noise Voltage	V_{NO}	$V_{IN}=0$			-110	dB

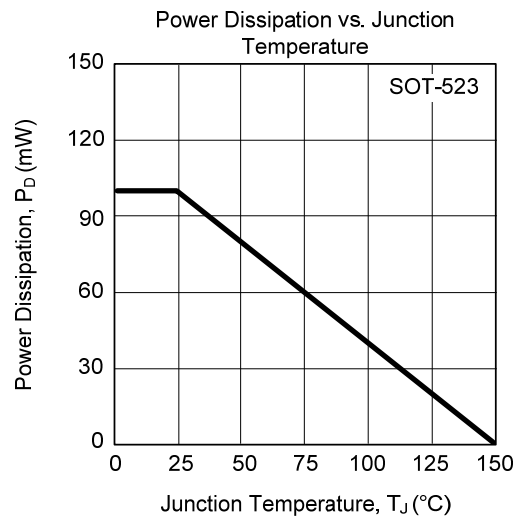
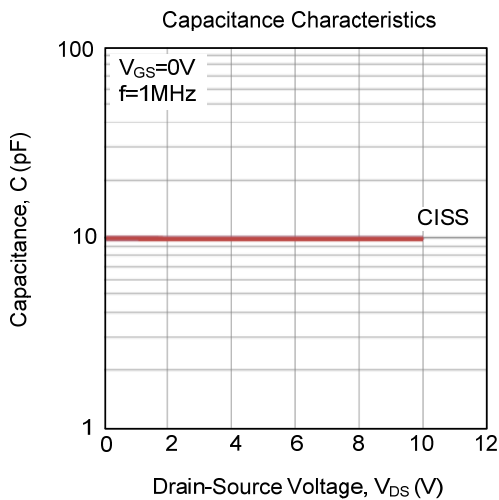
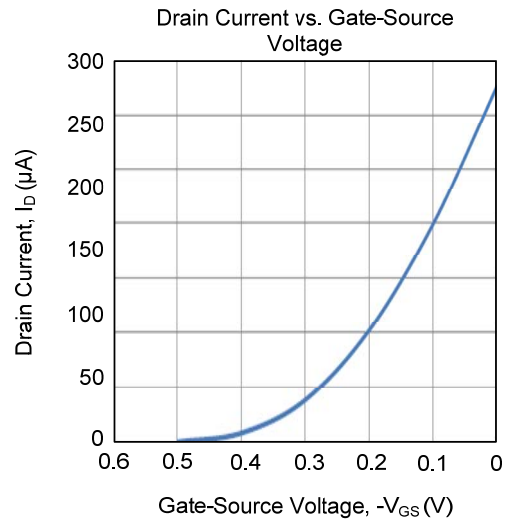
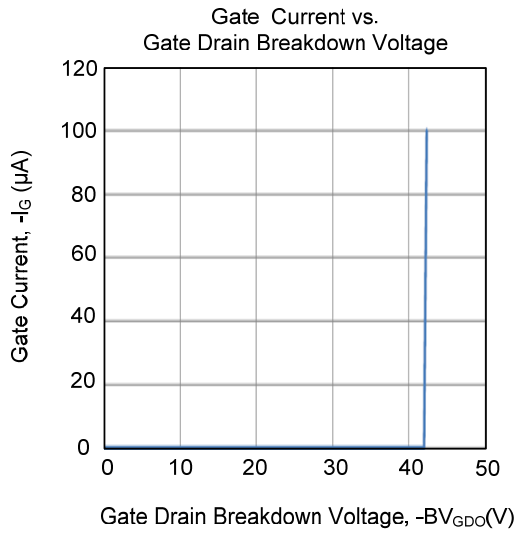
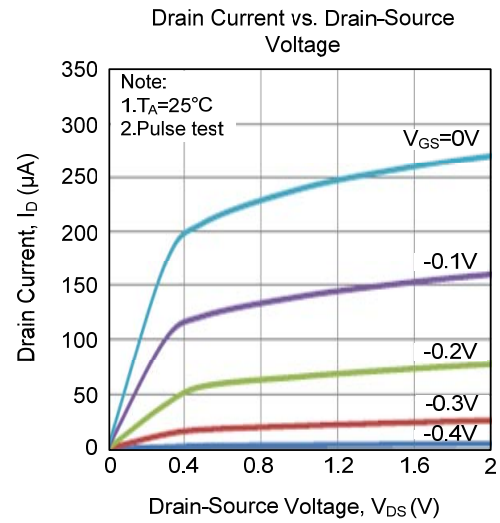
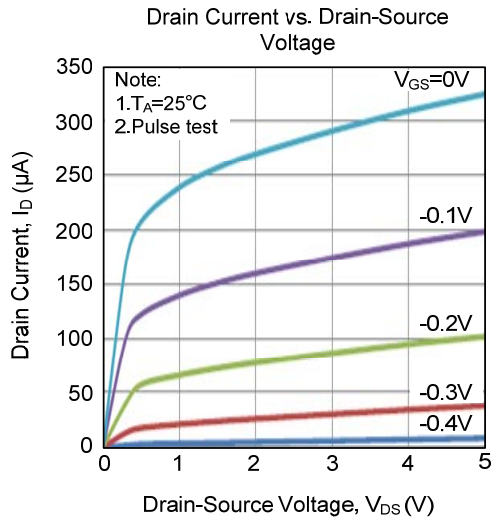
■ CLASSIFICATION OF I_{DSS}

RANK	F4	F5
RANGE	140-240	210-350

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



■ TYPICAL CHARACTERISTICS



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