

### TIGER ELECTRONIC CO.,LTD

Silicon N Channel Junction FET



### 2SK30ATM

Low Noise Pre-Amplifier, Tone Control Amplifier and DC-AC High Input Impedance Amplifier Circuit Applications

• High breakdown voltage:  $V_{GDS} = -50 \text{ V}$ 

• High input impedance:  $I_{GSS} = -1 \text{ nA (max) (V}_{GS} = -30 \text{ V)}$ 

• Low noise: NF = 0.5dB (typ.)

 $(V_{DS} = 15 \text{ V}, V_{GS} = 0, R_{G} = 100 \text{ k}\Omega, f = 120 \text{ Hz})$ 

#### **Absolute Maximum Ratings (Ta = 25°C)**

Characteristics	Symbol	Rating	Unit
Gate-drain voltage	$V_{GDS}$	-50	V
Gate current	IG	10	mA
Drain power dissipation	$P_{D}$	100	mW
Junction temperature	Tj	125	°C
Storage temperature range	T <sub>stg</sub>	-55~125	°C

Note: Using continuously under heavy loads (e.g. the application of high temperature/current/voltage and the significant change in temperature, etc.) may cause this product to decrease in the reliability significantly even if the operating conditions (i.e. operating temperature/current/voltage, etc.) are within the absolute maximum ratings.

Please design the appropriate reliability upon reviewing the

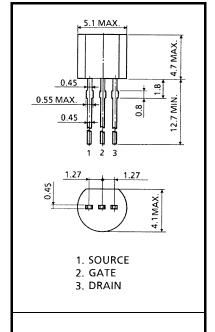
Toshiba Semiconductor Reliability Handbook ("Handling Precautions"/"Derating Concept and Methods") and individual reliability data (i.e. reliability test report and estimated failure rate, etc).

#### **Electrical Characteristics (Ta = 25°C)**

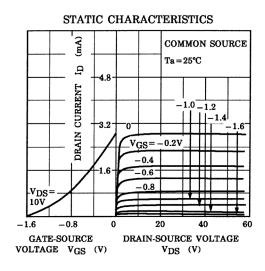
Characteristics	Symbol	Test Condition	Min	Тур.	Max	Unit
Gate cut-off current	I <sub>GSS</sub>	$V_{GS} = -30 \text{ V}, V_{DS} = 0$		_	-1.0	nA
Gate-drain breakdown voltage	V <sub>(BR) GDS</sub>	$V_{DS} = 0$ , $I_G = -100 \mu A$	-50	_	_	٧
Drain current	I <sub>DSS</sub> (Note)	V <sub>DS</sub> = 10 V, V <sub>GS</sub> = 0	0.3		6.5	mA
Gate-source cut-off voltage	V <sub>GS</sub> (OFF)	$V_{DS} = 10 \text{ V}, I_D = 0.1 \mu A$	-0.4		-5.0	>
Forward transfer admittance	Y <sub>fs</sub>	$V_{DS} = 10 \text{ V}, V_{GS} = 0, f = 1 \text{ kHz}$	1.2			mS
Input capacitance	C <sub>iss</sub>	$V_{GS} = 0$ , $V_{DS} = 0$ , $f = 1$ MHz		8.2		pF
Reverse transfer capacitance	C <sub>rss</sub>	$V_{GD} = -10 \text{ V}, V_{DS} = 0, f = 1 \text{ MHz}$		2.6		pF
Noise figure	NF	$V_{DS} = 15 \text{ V}, V_{GS} = 0$ $R_G = 100 \text{ k}\Omega, f = 120 \text{ Hz}$	_	0.5	5.0	dB

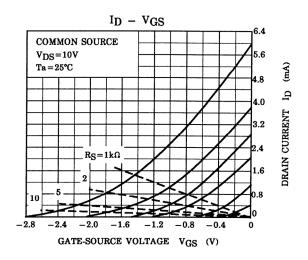
Note: I<sub>DSS</sub> classification R: 0.30~0.75, O: 0.60~1.40, Y: 1.20~3.00, GR: 2.60~6.50

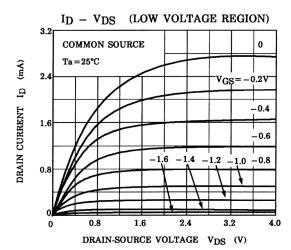


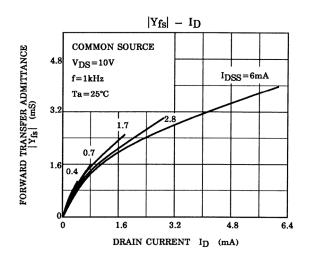


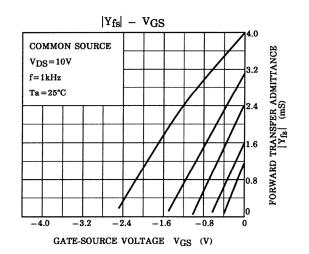
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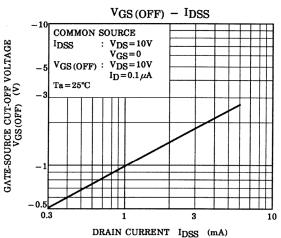














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