

# 2SK1842

## Silicon N-Channel Junction FET

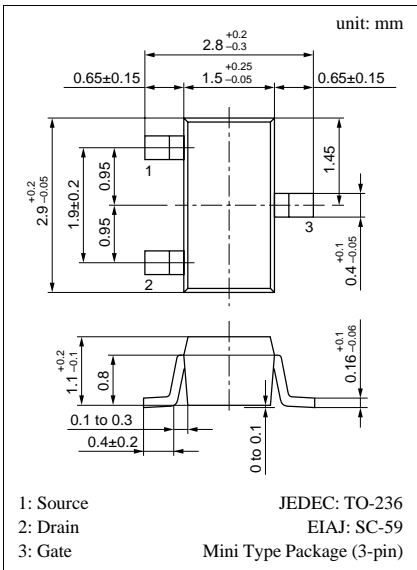
For impedance conversion in low frequency  
For infrared sensor

### ■ Features

- Low gate to source leakage current,  $I_{GSS}$
- Small capacitance of  $C_{iss}$ ,  $C_{oss}$ ,  $C_{rss}$
- Mini-type package, allowing downsizing of the sets and automatic insertion through the tape/magazine packing.

### ■ Absolute Maximum Ratings ( $T_a = 25^\circ\text{C}$ )

Parameter	Symbol	Ratings	Unit
Gate to Drain voltage	$V_{GDO}$	-40	V
Gate to Source voltage	$V_{GSO}$	-40	V
Drain current	$I_D$	1	mA
Gate current	$I_G$	10	mA
Allowable power dissipation	$P_D$	150	mW
Junction temperature	$T_j$	150	$^\circ\text{C}$
Storage temperature	$T_{stg}$	-55 to +150	$^\circ\text{C}$



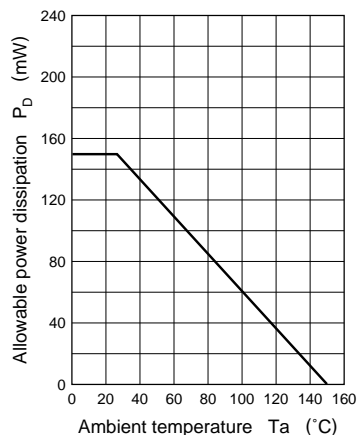
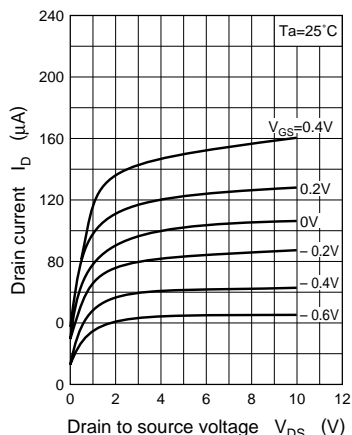
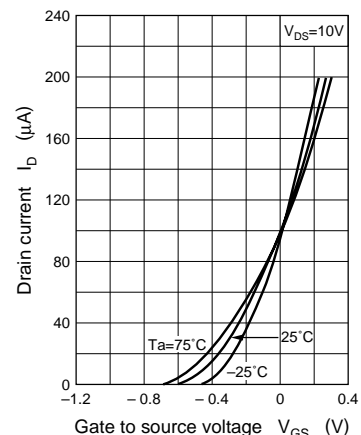
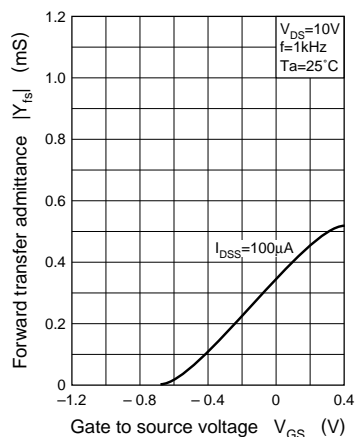
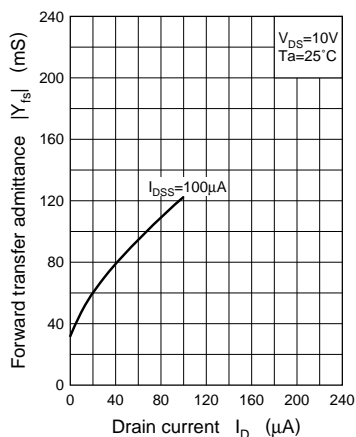
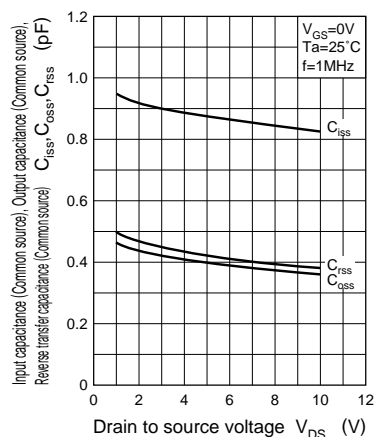
Marking Symbol (Example): EB

### ■ Electrical Characteristics ( $T_a = 25^\circ\text{C}$ )

Parameter	Symbol	Conditions	min	typ	max	Unit
Drain to Source cut-off current	$I_{DSS}^*$	$V_{DS} = 10\text{V}$ , $V_{GS} = 0$	30		200	$\mu\text{A}$
Gate to Source leakage current	$I_{GSS}$	$V_{GS} = -20\text{V}$ , $V_{DS} = 0$			- 0.5	nA
Gate to Drain voltage	$V_{GDS}$	$I_G = -10\mu\text{A}$ , $V_{DS} = 0$	-40			V
Gate to Source cut-off voltage	$V_{GSC}$	$V_{DS} = 10\text{V}$ , $I_D = 1\mu\text{A}$		-1.3	-3	V
Forward transfer admittance	$ Y_{fs} $	$V_{DS} = 10\text{V}$ , $V_{GS} = 0$ , $f = 1\text{kHz}$	0.05			mS
Input capacitance (Common Source)	$C_{iss}$	$V_{DS} = 10\text{V}$ , $V_{GS} = 0$ , $f = 1\text{MHz}$		1		pF
Output capacitance (Common Source)	$C_{oss}$			0.4		pF
Reverse transfer capacitance (Common Source)	$C_{rss}$			0.4		pF

\*  $I_{DSS}$  rank classification

Runk	O	P	Q	R
$I_{DSS}$ (mA)	30 to 75	50 to 100	70 to 130	100 to 200
Marking Symbol	EBP	EBQ	EBR	EBS

$P_D - T_a$  $I_D - V_{DS}$  $I_D - V_{GS}$  $|Y_{fs}| - V_{GS}$  $|Y_{fs}| - I_D$  $C_{iss}, C_{oss}, C_{rss} - V_{DS}$ 

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