

2SK1842

Silicon N-Channel Junction FET

For impedance conversion in low frequency

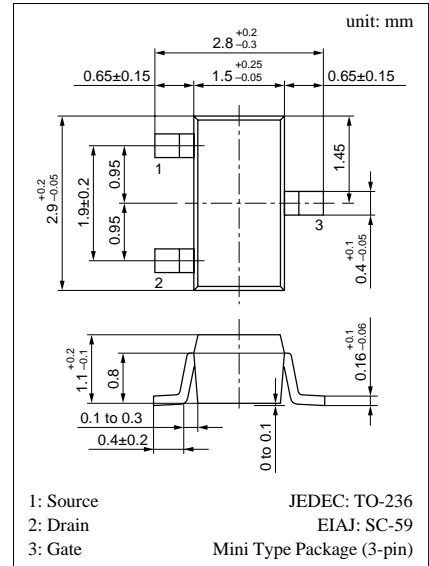
For infrared sensor

■ 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

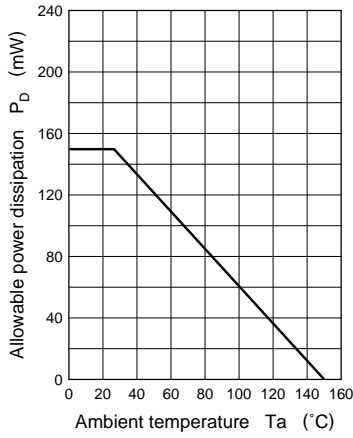
■ Electrical Characteristics ($T_a = 25^\circ\text{C}$)

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	μA
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

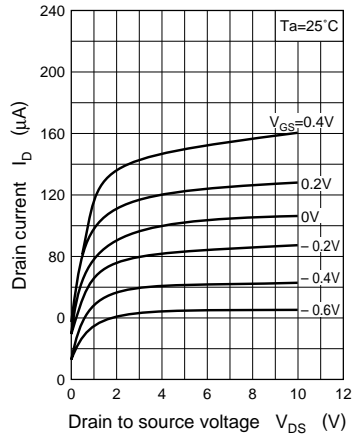
* I_{DSS} rank classification

Rank	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

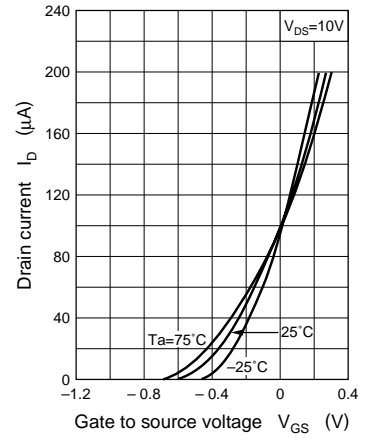
$P_D - T_a$



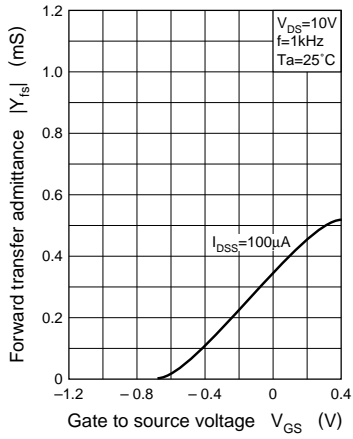
$I_D - V_{DS}$



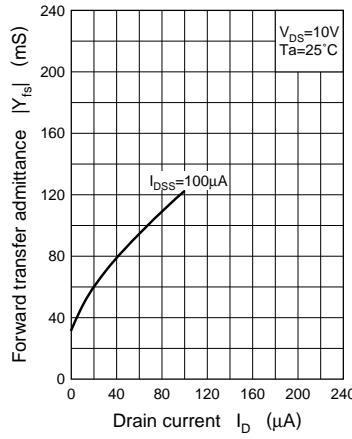
$I_D - V_{GS}$



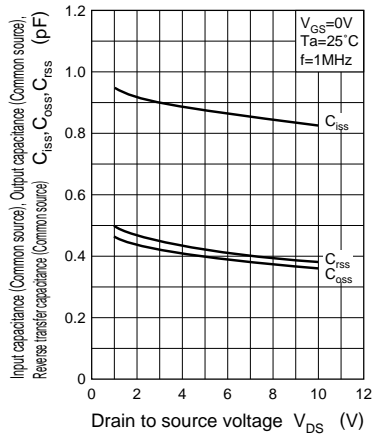
$|Y_{fs}| - V_{GS}$



$|Y_{fs}| - I_D$



$C_{iss}, C_{oss}, C_{rss} - V_{DS}$



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