

2SK1842

Silicon N-Channel Junction FET

For impedance conversion in low frequency

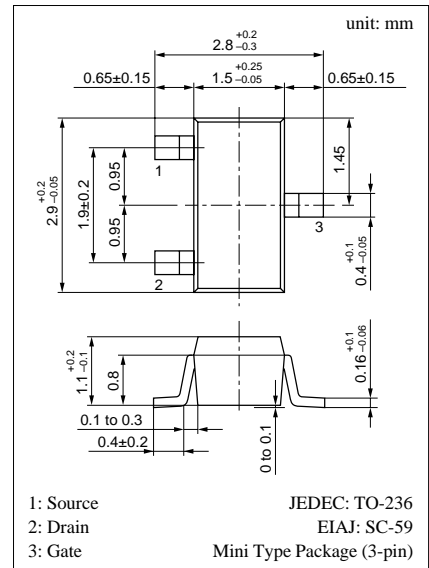
For infrared sensor

■ 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 (Ta = 25°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 | °C |
| Storage temperature | T_{stg} | -55 to +150 | °C |



Marking Symbol (Example): EB

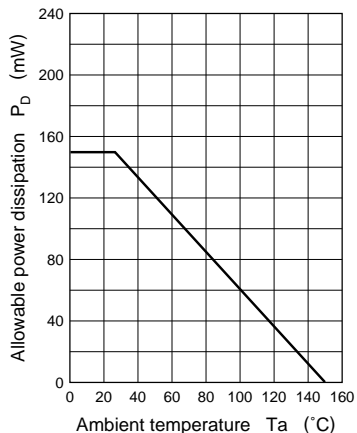
■ Electrical Characteristics (Ta = 25°C)

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

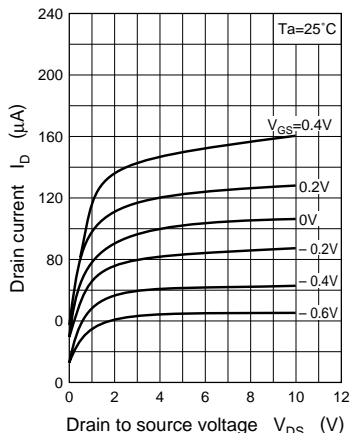
* I_{DSS} rank classification

| 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 |

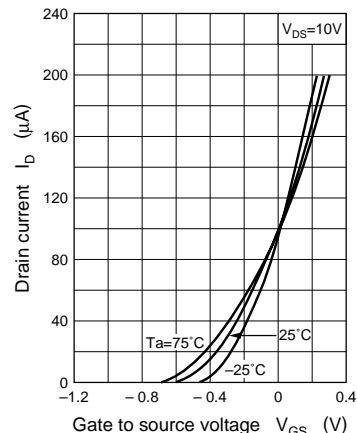
$P_D - T_a$



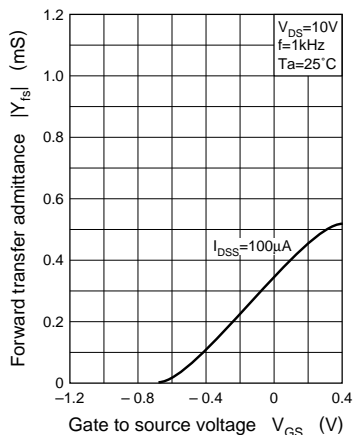
$I_D - V_{DS}$



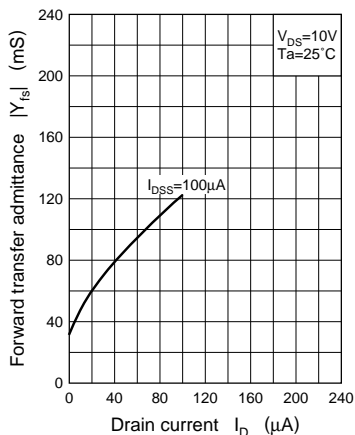
$I_D - V_{GS}$



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



$|Y_{fs}| - I_D$



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

