Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!


## Contact us

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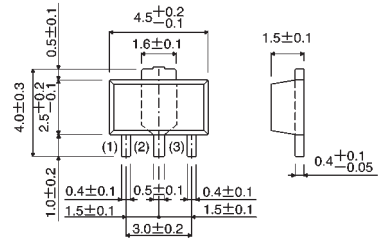
# Small switching (60V, 2A)
## 2SK2463

●Features
1) Low on-resistance.
2) Fast switching speed.
3) Wide SOA (safe operating area).
4) Low-voltage drive (4V).
5) Easily designed drive circuits.
6) Easy to parallel.

●Structure
Silicon N-channel
MOSFET

●External dimensions (Units: mm)




ROHM : MPT3
EIAJ : SC-62
Abbreviated symbol: KC
(1) Gate
(2) Drain
(3) Source

●Absolute maximum ratings (Ta = 25°C)

| Parameter | | Symbol | Limits | Unit |
|---|---|---|---|---|
| Drain-source voltage | | $V_{DSS}$ | 60 | V |
| Gate-source voltage | | $V_{GSS}$ | ±20 | V |
| Drain current | Continuous | $I_D$ | 2 | A |
| | Pulsed | $I_{DP}$*1 | 8 | A |
| Reverse drain current | Continuous | $I_{DR}$ | 2 | A |
| | Pulsed | $I_{DRP}$*1 | 8 | A |
| Total power dissipation | | $P_D$ | 0.5 / 2*2 | W |
| Channel temperature | | Tch | 150 | ℃ |
| Storage temperature | | Tstg | −55～+150 | ℃ |

*1 Pw≦10 μs, Duty cycle≦1% *2 When mounted on a 40 × 40 × 0.7 mm alumina board.

●Packaging specifications

| | | |
|---|---|---|
| Type | Package | Taping |
| | Code | T100 |
| | Basic ordering unit (pieces) | 1000 |
| 2SK2463 | | ○ |

●Electrical characteristics (Ta = 25°C)

| Parameter | Symbol | Min. | Typ. | Max. | Unit | Test Conditions |
|---|---|---|---|---|---|---|
| Gate-source leakage | $I_{GSS}$ | — | — | ±100 | nA | $V_{GS}$=±20V, $V_{DS}$=0V |
| Drain-source breakdown voltage | $V_{(BR)DSS}$ | 60 | — | — | V | $I_D$=1mA, $V_{GS}$=0V |
| Zero gate voltage drain current | $I_{DSS}$ | — | — | 10 | μA | $V_{DS}$=60V, $V_{GS}$=0V |
| Gate threshold voltage | $V_{GS(th)}$ | 1.0 | — | 2.5 | V | $V_{DS}$=10V, $I_D$=1mA |
| Static drain-source on-state resistance | $R_{DS(on)}$ | — | 0.30 | 0.38 | Ω | $I_D$=1A, $V_{GS}$=10V |
| | | — | 0.45 | 0.58 | | $I_D$=1A, $V_{GS}$=4V |
| Forward transfer admittance | $\|Y_{fs}\|$* | 1.2 | — | — | S | $I_D$=1A, $V_{DS}$=10V |
| Input capacitance | $C_{iss}$ | — | 200 | — | pF | $V_{DS}$=10V |
| Output capacitance | $C_{oss}$ | — | 80 | — | pF | $V_{GS}$=0V |
| Reverse transfer capacitance | $C_{rss}$ | — | 50 | — | pF | f=1MHz |
| Turn-on delay time | $t_{d(on)}$ | — | 10 | — | ns | $I_D$=1A, $V_{DD}$≒30V |
| Rise time | $t_r$ | — | 25 | — | ns | $V_{GS}$=10V |
| Turn-off delay time | $t_{d(off)}$ | — | 50 | — | ns | $R_L$=30Ω |
| Fall time | $t_f$ | — | 50 | — | ns | $R_G$=10Ω |
| Reverse recovery time | $t_{rr}$ | — | 70 | — | ns | $I_{DR}$=2A, $V_{GS}$=0V, di/dt=50A/μs |

* Pw≦300 μs, Duty cycle≦1%

●Electrical characteristic curves

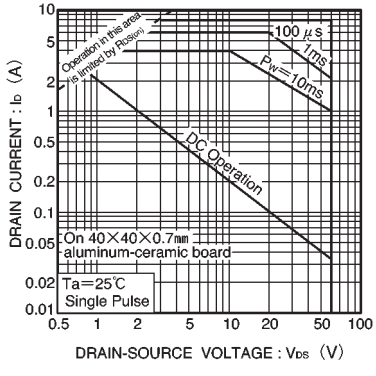



Fig.1 Maximum safe operating area

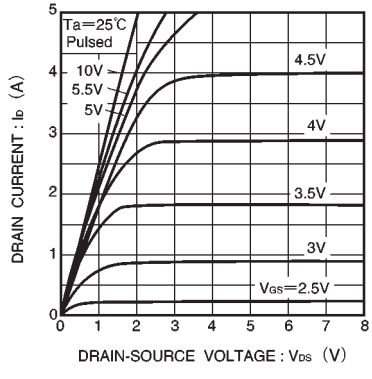



Fig.2 Typical output characteristics

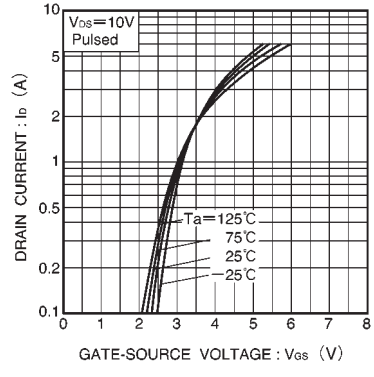



Fig.3 Typical transfer characteristics

●Electrical characteristic curves

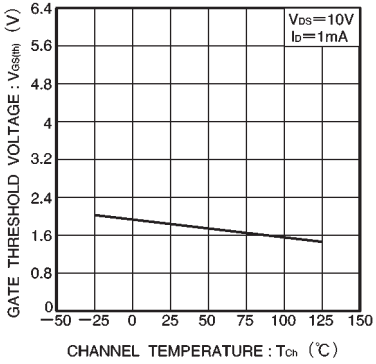



Fig.4 Gate threshold voltage vs. channel temperature

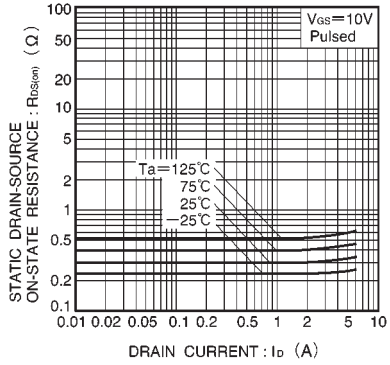



Fig.5 Static drain-source on-state resistance vs. drain current (Ⅰ)

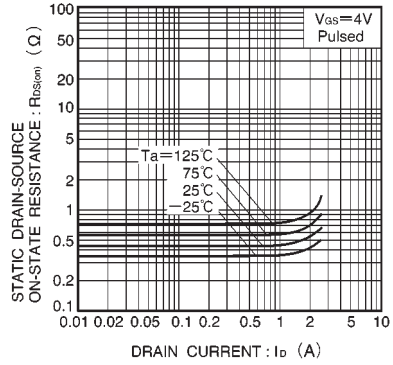



Fig.6 Static drain-source on-state resistance vs. drain current (Ⅱ)

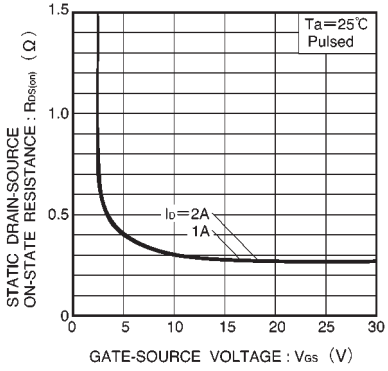



Fig.7 Static drain-source on-state resistance vs. gate-source voltage

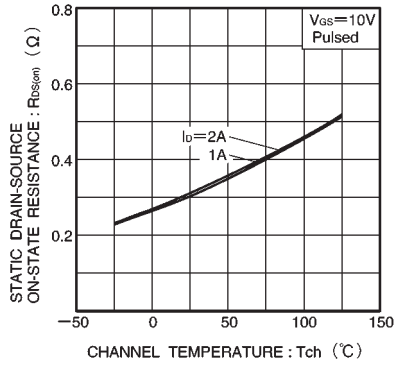



Fig.8 Static drain-source on-state resistance vs. channel temperature

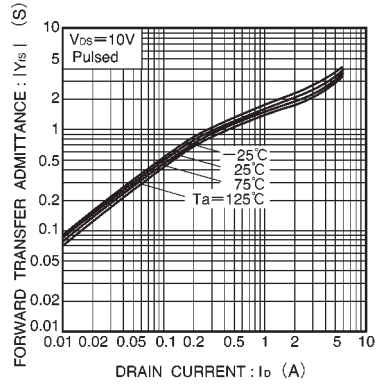



Fig.9 Forward transfer admittance vs. drain current

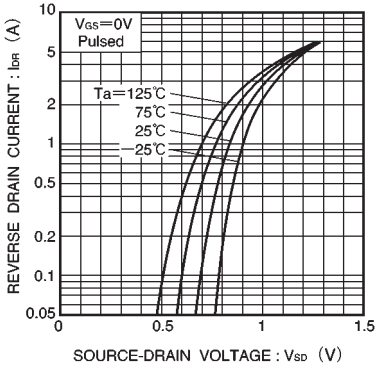



Fig.10 Reverse drain current vs. source-drain voltage (Ⅰ)

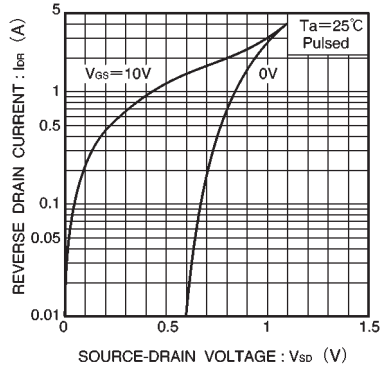



Fig.11 Reverse drain current vs. source-drain voltage (Ⅱ)

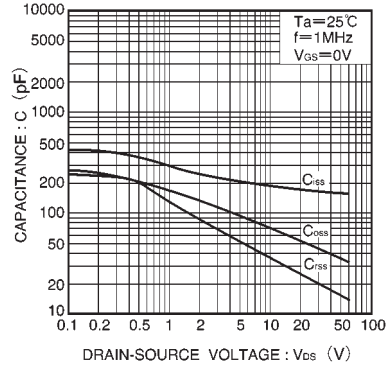



Fig.12 Typical capacitance vs. drain-source voltage

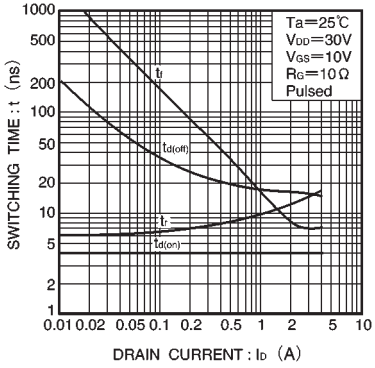



Fig.13 Switching characteristics (See Figures 16 and 17 for the measurement circuit and resultant waveforms)

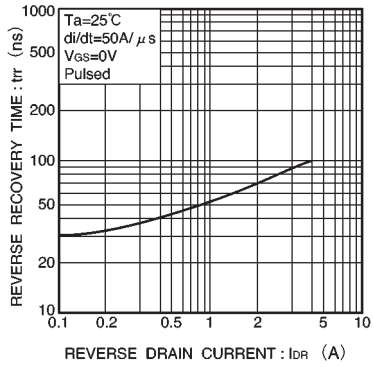



Fig.14 Reverse recovery time vs. reverse drain current

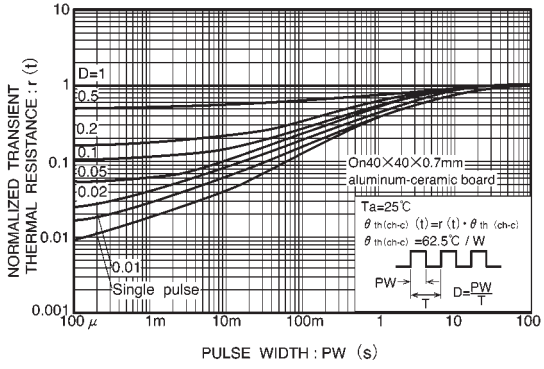



Fig.15 Normalized transient thermal resistance vs. pulse width

●Switching characteristics measurement circuit

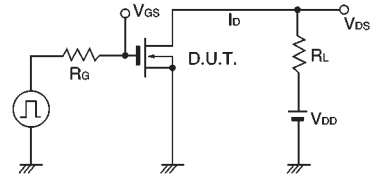



Fig.16 Switching time measurement circuit

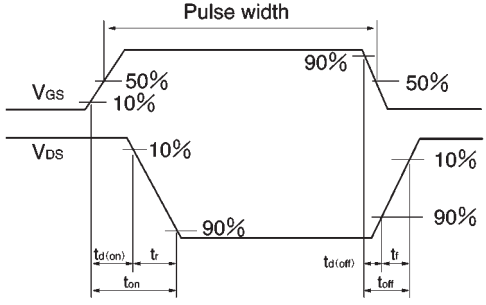



Fig.17 Switching time waveforms