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|  | No.3555 | 2SK1417 N-Channel MOS Silicon FET Very High-Speed Switching Applications |
| | | |

Features

- Low ON-state resistance.
- Very high-speed switching.
- Converters.

Absolute Maximum Ratings at Ta = 25°C

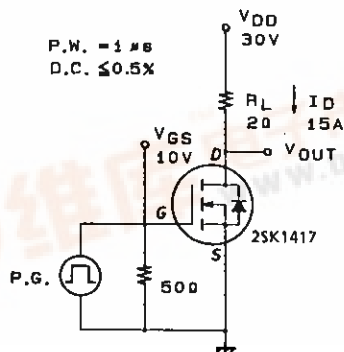
| | | | unit |
|-----------------------------|------------------|----------------------------|-------------|
| Drain to Source Voltage | V _{DS} | 60 | V |
| Gate to Source Voltage | V _{GS} | ±20 | V |
| Drain Current(DC) | I _D | 25 | A |
| Drain Current(Pulse) | I _{DP} | PW ≤ 10μs, duty cycle ≤ 1% | 100 |
| Allowable Power Dissipation | P _D | Tc = 25°C | 60 |
| | | | 1.75 |
| Channel Temperature | T _{ch} | | 150 |
| Storage Temperature | T _{stg} | | -55 to +150 |

Electrical Characteristics at Ta = 25°C

| | | | min | typ | max | unit |
|--|----------------------|---|-----|-------|-------|------|
| D-S Breakdown Voltage | V _{(BR)DSS} | I _D = 1mA, V _{GS} = 0 | 60 | | | V |
| Zero Gate Voltage Drain Current | I _{DSS} | V _{DS} = 60V, V _{GS} = 0 | | | 100 | μA |
| Gate to Source Leakage Current | I _{GSS} | V _{GS} = ±20V, V _{DS} = 0 | | | ±100 | nA |
| Cutoff Voltage | V _{GS(off)} | V _{DS} = 10V, I _D = 1mA | 1.5 | | 2.5 | V |
| Forward Transfer Admittance | Y _{fs} | V _{DS} = 10V, I _D = 15A | 10 | 15 | | S |
| Static Drain to Source on State Resistance | R _{DS(on)} | I _D = 15A, V _{GS} = 10V | | 0.035 | 0.045 | Ω |
| Input Capacitance | C _{iss} | V _{DS} = 20V, f = 1MHz | | 1200 | | pF |
| Output Capacitance | C _{oss} | V _{DS} = 20V, f = 1MHz | | 550 | | pF |
| Reverse Transfer Capacitance | C _{rss} | V _{DS} = 20V, f = 1MHz | | 150 | | pF |
| Turn-ON Delay Time | t _{d(on)} | I _D = 15A, V _{GS} = 10V V _{DD} = 30V, R _{GS} = 50Ω | | 18 | | ns |
| Rise Time | t _r | | 102 | | ns | |
| Turn-OFF Delay Time | t _{d(off)} | | 130 | | ns | |
| Fall Time | t _f | | 90 | | ns | |
| Diode Forward Voltage | V _{SD} | I _S = 25A, V _{GS} = 0 | | | 1.8 | V |

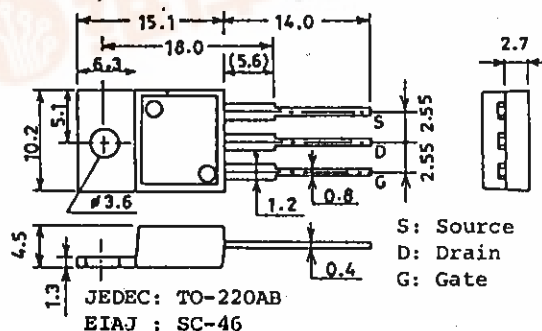
(Note) Be careful in handling the 2SK1417 because it has no protection diode between gate and source.

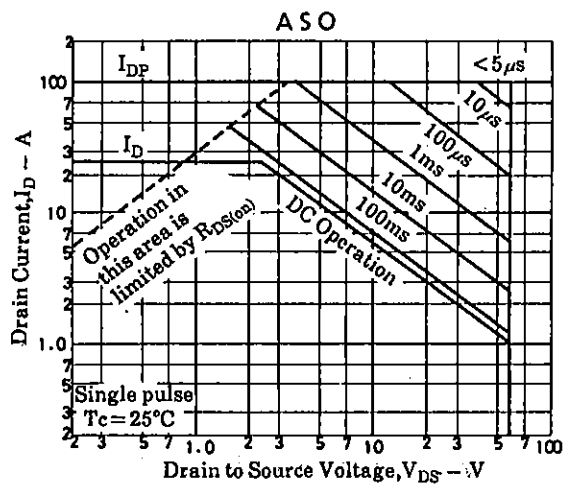
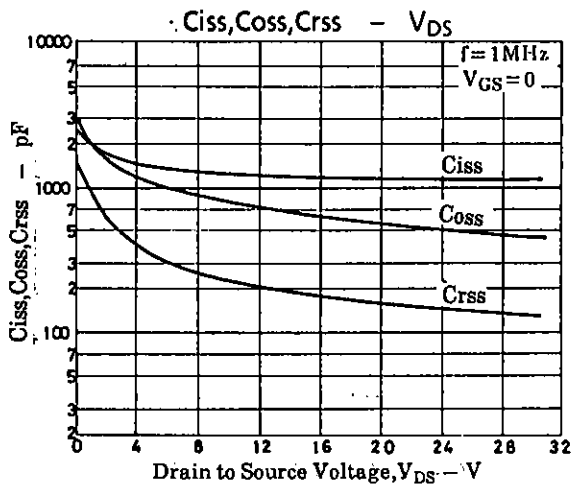
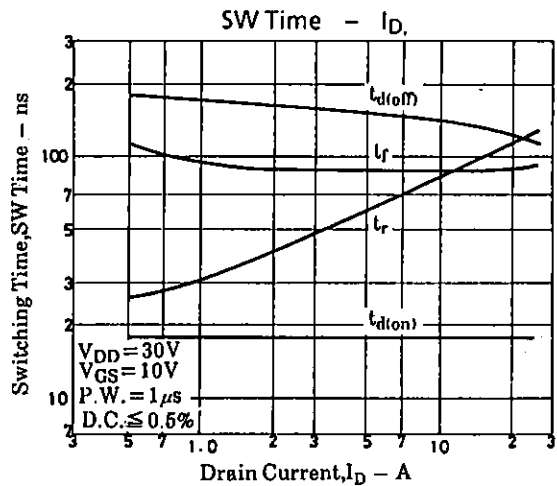
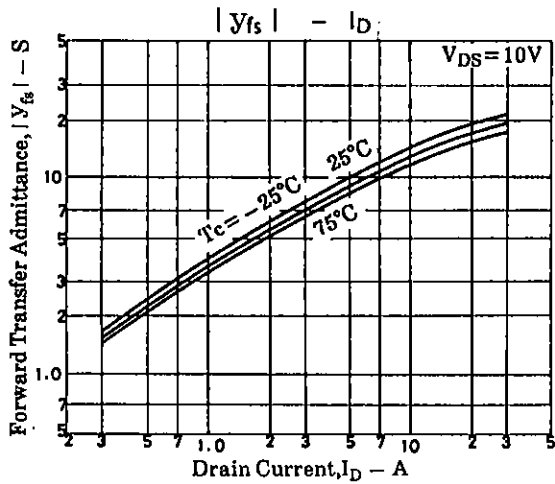
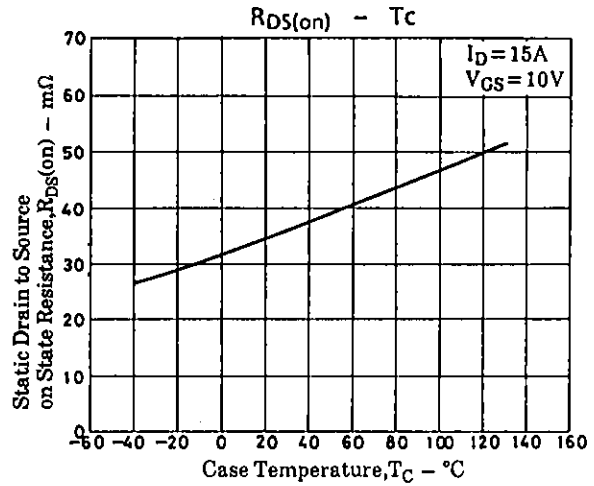
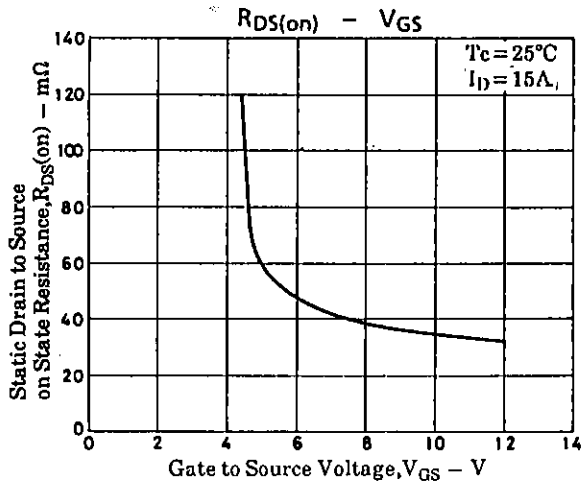
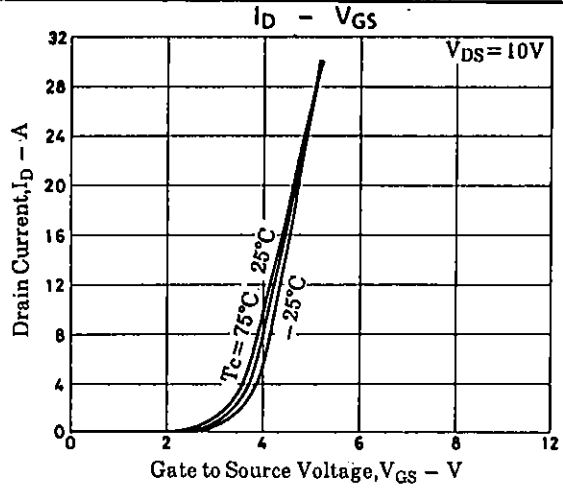
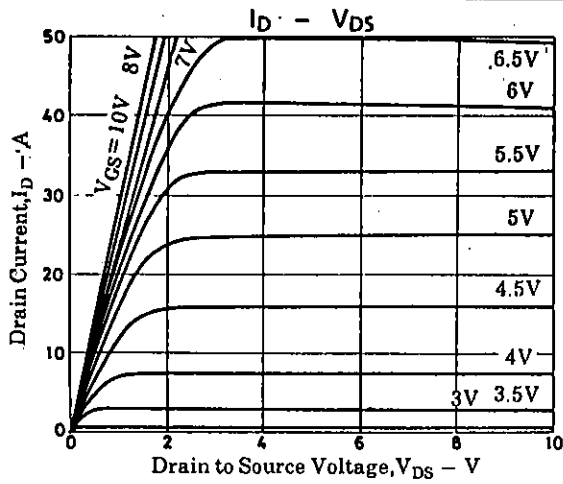
Switching Time Test Circuit



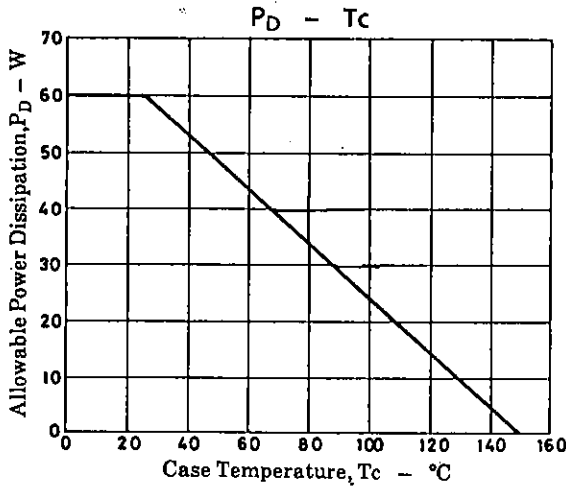
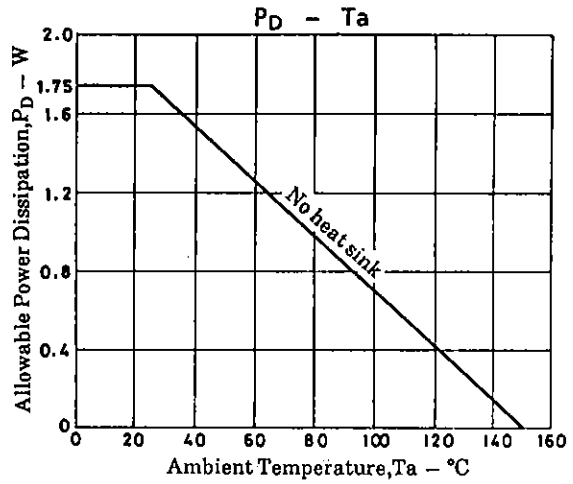
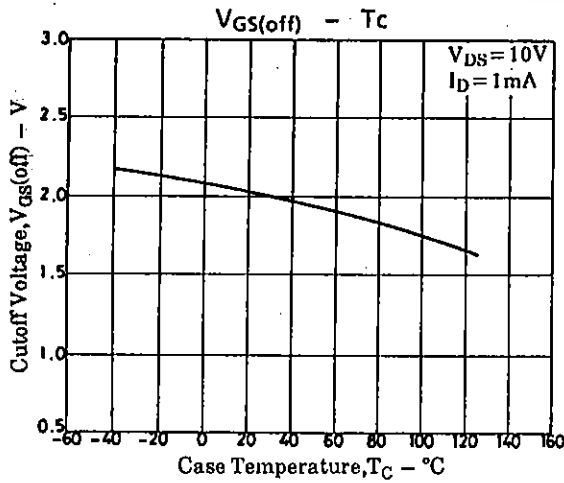
Package Dimensions 2052B

(unit : mm)





2SK1417



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