

N-Channel MOS FET

FKP330C

July, 2007

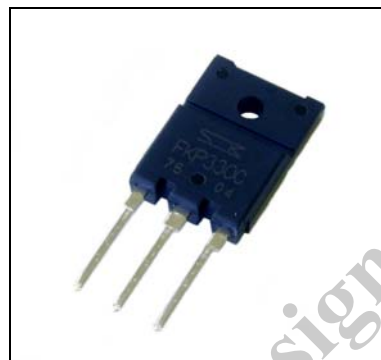
■Features

- Low on-resistance
- Low input capacitance
- Avalanche energy guarantee

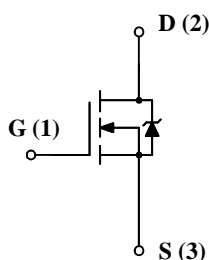
■Applications

- PDP driving
- High speed switching

■Package---FM100 (TO-3P Full Mold)



■Equivalent circuit



■Absolute maximum ratings

(Ta=25°C)

| Characteristic | Symbol | Rating | Unit |
|-------------------------------|-------------------------|--------------|------|
| Drain to Source Voltage | VDSS | 330 | V |
| Gate to Source Voltage | VGSS | ±30 | V |
| Continuous Drain Current | ID | ±30A | A |
| Pulsed Drain Current | ID(pulse) ¹⁾ | ±120A | A |
| Maximum Power Dissipation | PD | 85 (Tc=25°C) | W |
| Single Pulse Avalanche Energy | EAS ²⁾ | 500 | mJ |
| Avalanche Current | IAS | 30 | A |
| Channel Temperature | Tch | 150 | °C |
| Storage Temperature | Tstg | -55~150 | °C |

1) PW≤100μs, duty cycle≤1%

2) VDD=20V, L=1mH, ILp=30A, unclamped, RG=50Ω, See Fig.1

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Electrical characteristics

(Ta=25°C)

| Characteristic | Symbol | Test Conditions | Limits | | | Unit |
|--|---------------------------------------|---|--------|------|------|-------|
| | | | MIN. | TYP. | MAX. | |
| Drain to Source breakdown Voltage | V(BR)DSS | ID=100μA, VGS=0V | 330 | | | V |
| Gate to Source Leakage Current | IGSS | VGS=±30V | | | ±100 | nA |
| Drain to Source Leakage Current | IDSS | VDS=330V, VGS=0V | | | 100 | μA |
| Gate Threshold Voltage | VTH | VDS=10V, ID=1mA | 3.0 | | 4.5 | V |
| Forward Transconductance | Re(Yfs) | VDS=10V, ID=15A | 23 | 37 | | S |
| Static Drain to Source On-Resistance | RDS(on) | ID=15A, VGS=10V | | 50 | 63 | mΩ |
| Input Capacitance | Ciss | VDS=25V VGS=0V f=1MHz | | 4600 | | pF |
| Output Capacitance | Coss | | | 620 | | |
| Reverse Transfer Capacitance | Crss | | | 220 | | |
| Turn-On Delay Time | td(on) | ID=15A, VDD≈165V RL=11Ω, VGS=10V RG=5Ω See Fig.2 | | 50 | | ns |
| Rise Time | tr | | | 60 | | |
| Turn-Off Delay Time | td(off) | | | 110 | | |
| Fall Time | tf | | | 30 | | |
| Source-Drain Diode Forward Voltage | VSD | ISD=30A, VGS=0V | | 1.0 | 1.5 | V |
| Gate Threshold Voltage Temp. Coefficient | $\frac{\Delta V_{TH}}{\Delta T_{ch}}$ | VDS=10V, ID=1mA | | -11 | | mV/°C |

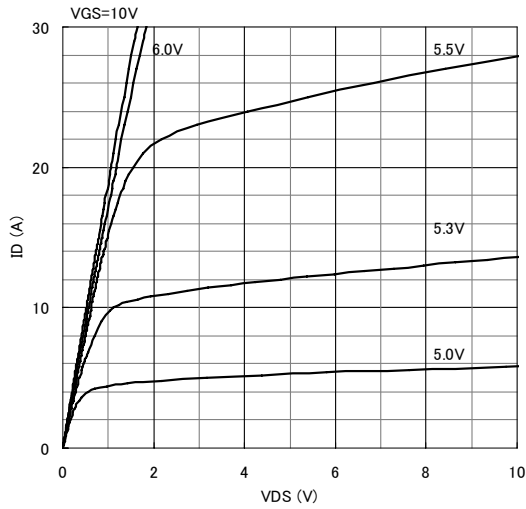
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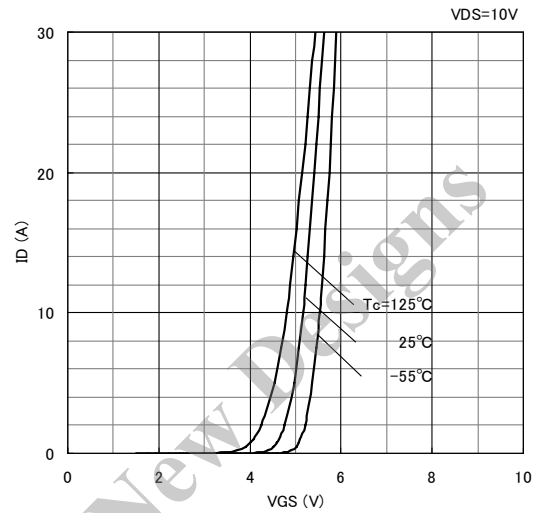
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Characteristic Curves (Tc=25°C)

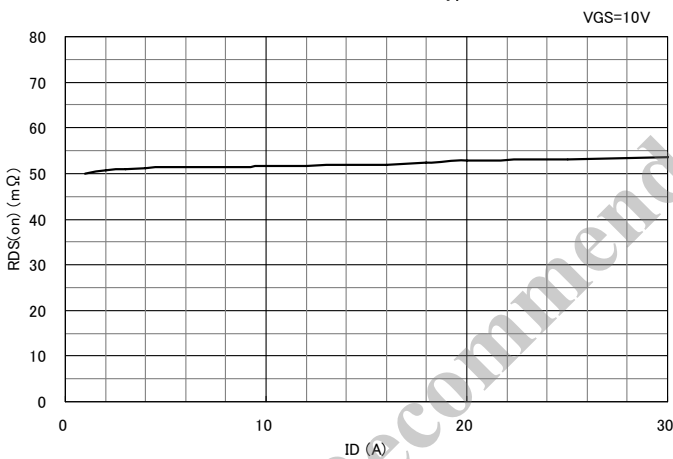
ID-VDS Characteristics (typical)



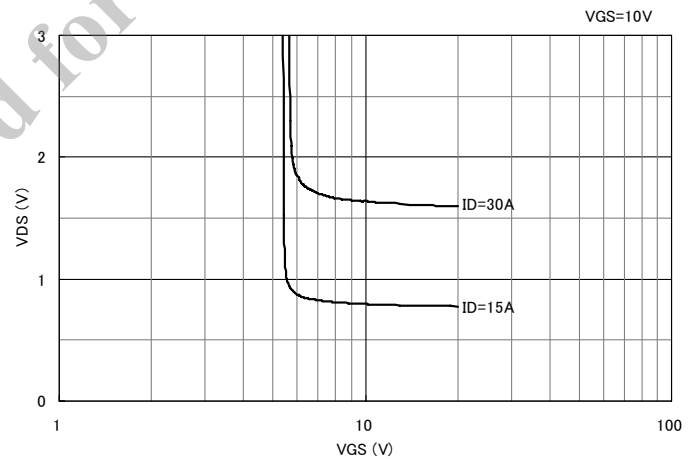
ID-VGS Characteristics (typical)



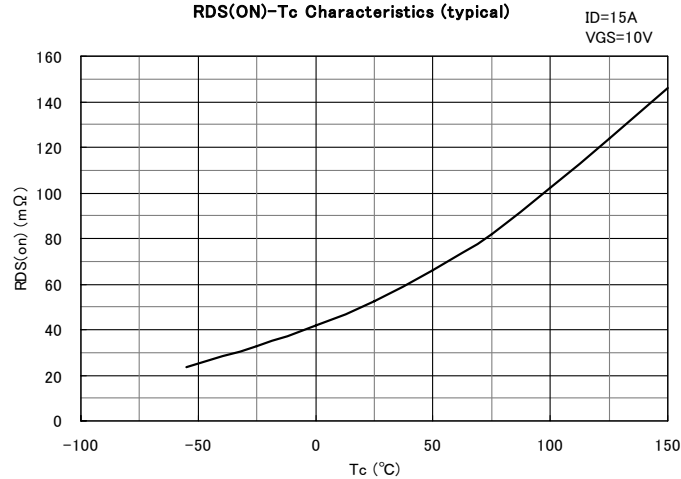
RDS(ON)-ID Characteristics (typical)



VDS-VGS Characteristics (typical)



RDS(ON)-Tc Characteristics (typical)

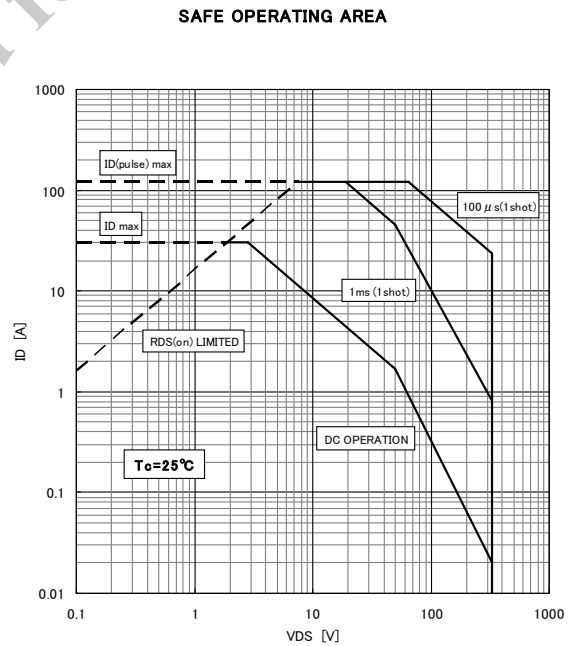
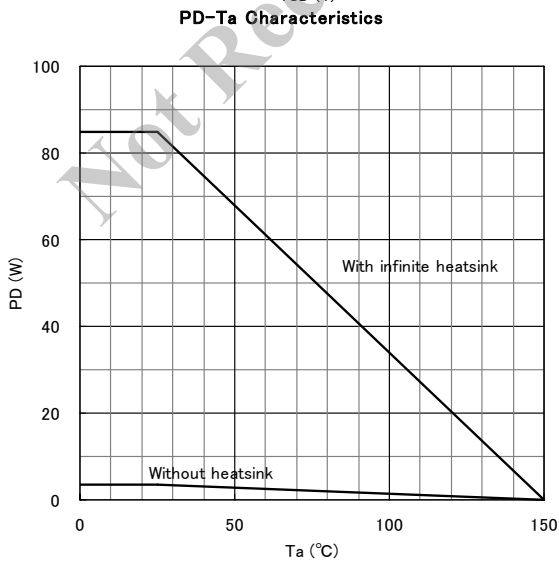
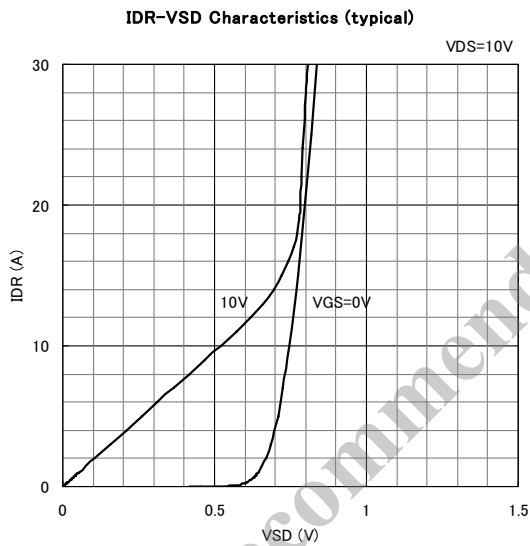
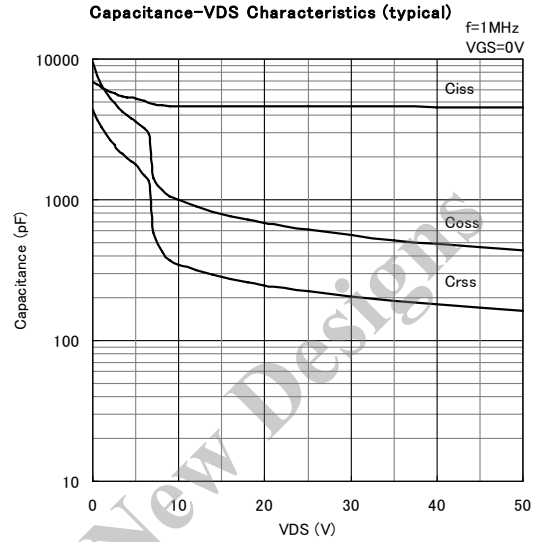
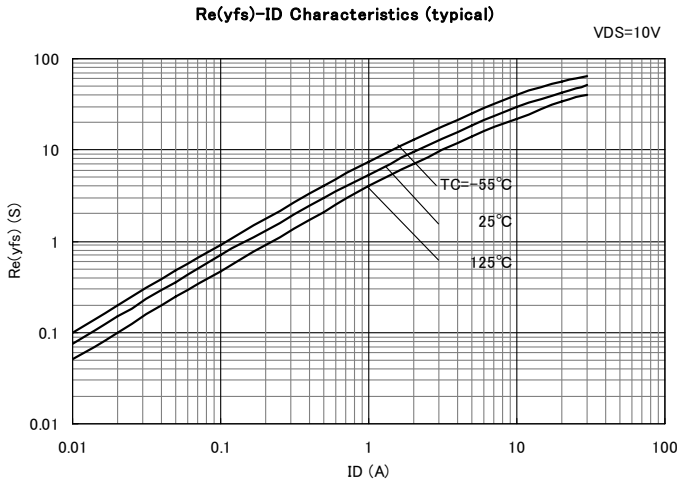


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Characteristic Curves (Tc=25°C)



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Fig.1 Unclamped Inductive Test Method

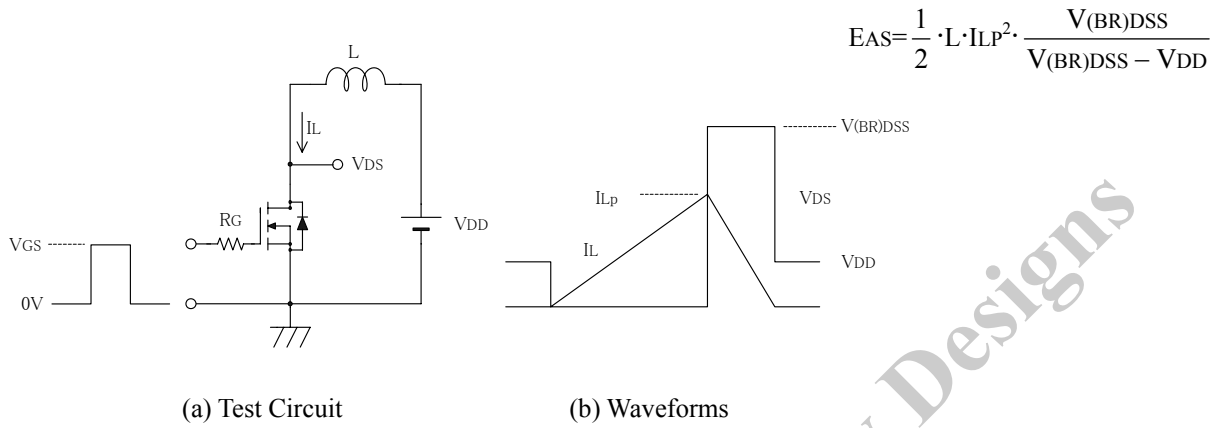
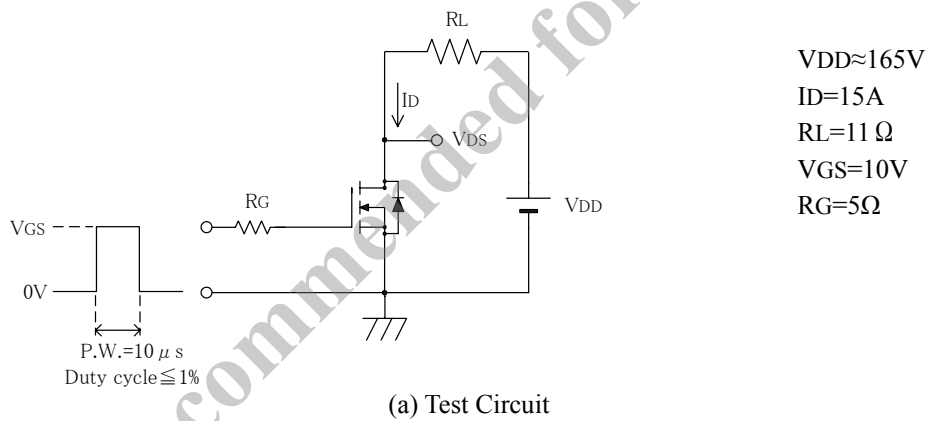


Fig.2 Switching Time Test Method



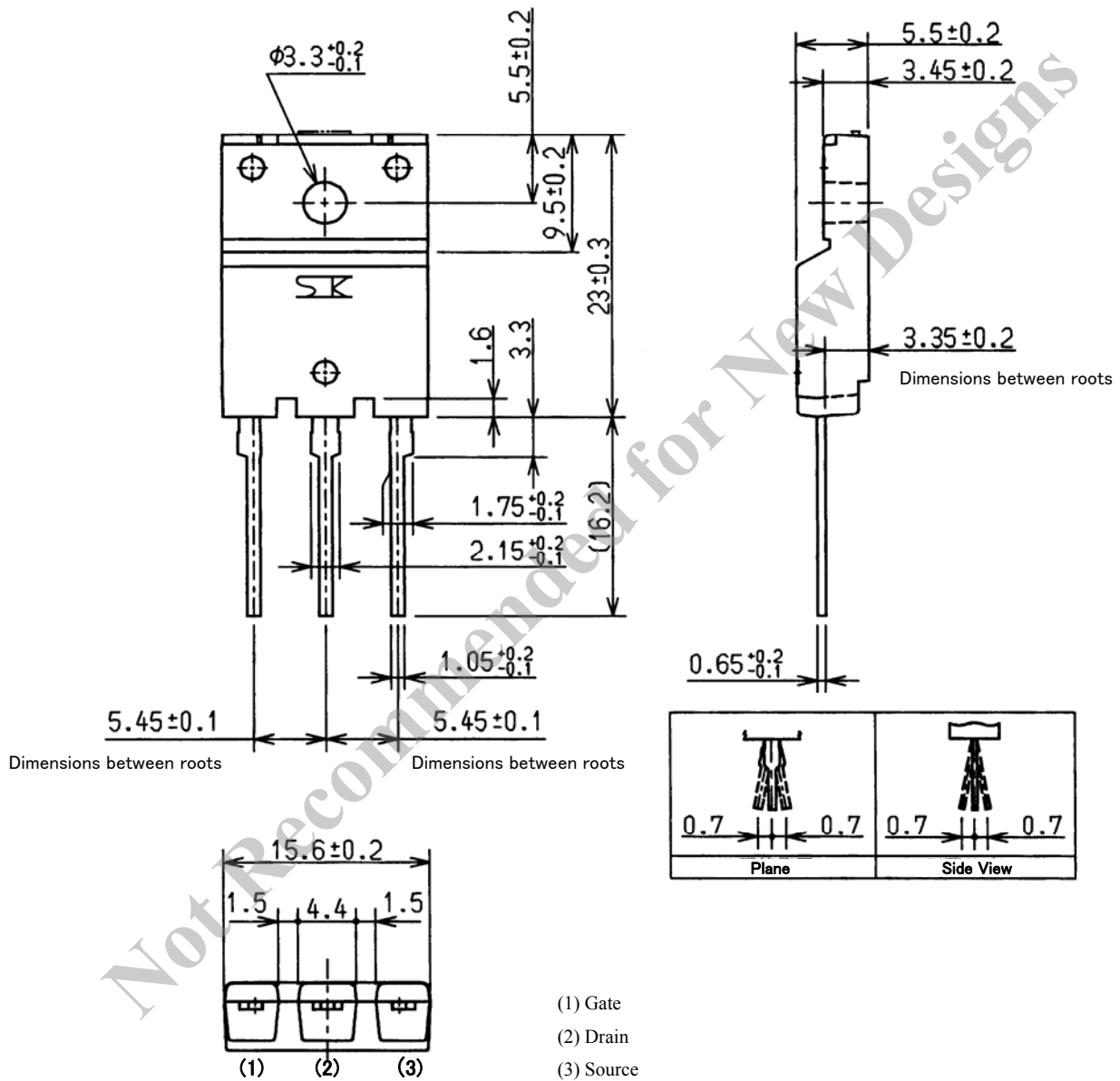
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Outline

FM100 (TO-3P Full Mold)



Weight Approx. 6.5g

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