

Switching (450V, 5A)

2SK2713

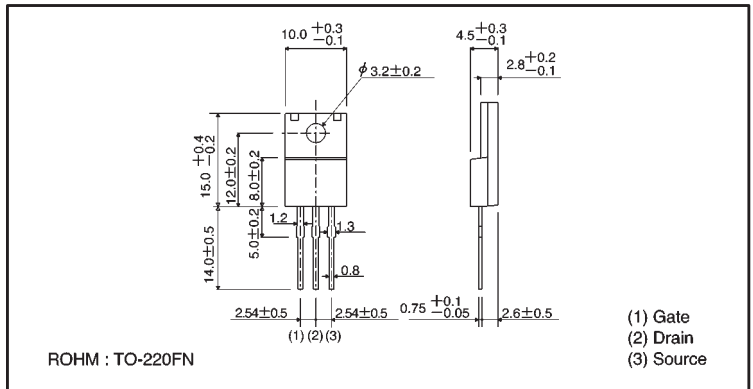
●Features

- 1) Low on-resistance.
- 2) Fast switching speed.
- 3) Wide SOA (safe operating area).
- 4) Gate-source voltage (V_{GS}) guaranteed to be $\pm 30V$.
- 5) Easily designed drive circuits.
- 6) Easy to parallel.

●Structure

Silicon N-channel
MOSFET

●External dimensions (Units: mm)



●Absolute maximum ratings ($T_a = 25^\circ C$)

Parameter	Symbol	Limits	Unit
Drain-source voltage	V_{DSS}	450	V
Gate-source voltage	V_{GS}	± 30	V
Drain current	Continuous	I_D	5 A
	Pulsed	I_{DP}^*	20 A
Reverse drain current	Continuous	I_{DR}	5 A
	Pulsed	I_{DRP}^*	20 A
Total power dissipation ($T_C=25^\circ C$)	P_D	30	W
Channel temperature	T_{ch}	150	$^\circ C$
Storage temperature	T_{stg}	$-55 \sim +150$	$^\circ C$

* $P_w \leq 10 \mu s$, Duty cycle $\leq 1\%$

●Packaging specifications

Type	Package	Bulk
	Code	—
	Basic ordering unit (pieces)	500
2SK2713		○

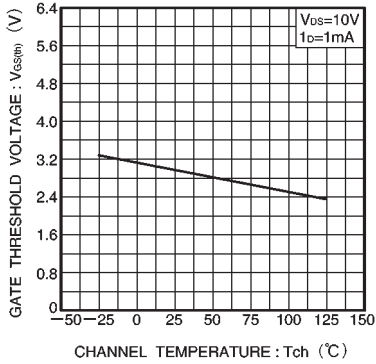


Fig.4 Gate threshold voltage vs. channel temperature

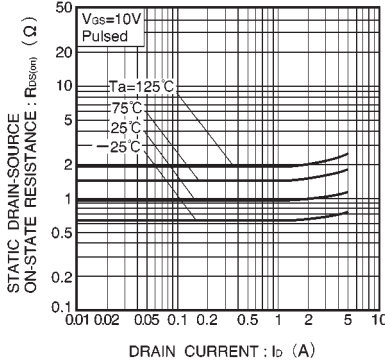


Fig.5 Static drain-source on-state resistance vs. drain current

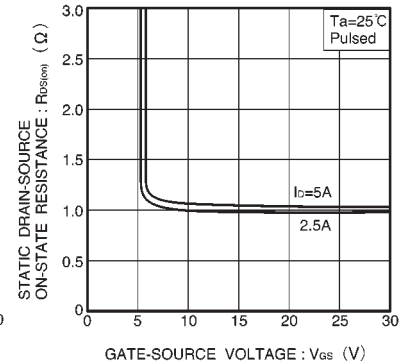


Fig.6 Static drain-source on-state resistance vs. gate-source voltage

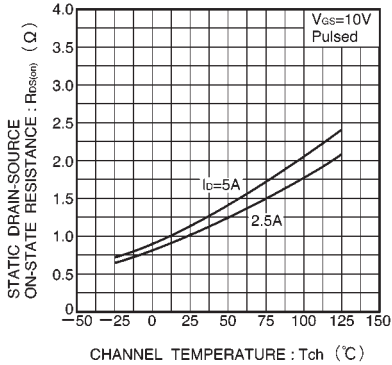


Fig.7 Static drain-source on-state resistance vs. channel temperature

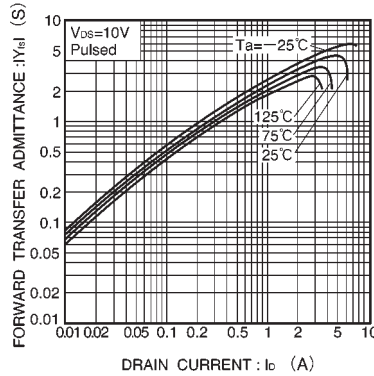


Fig.8 Forward transfer admittance vs. drain current

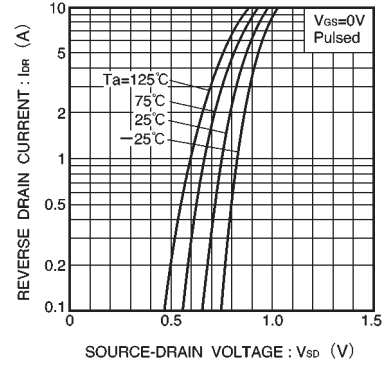


Fig.9 Reverse drain current vs. source-drain voltage

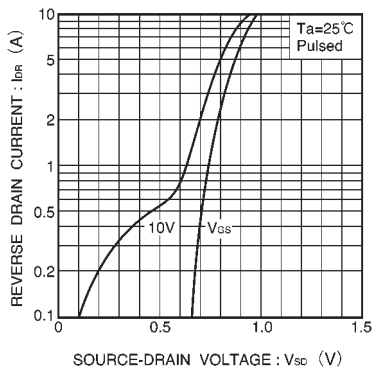


Fig.10 Reverse drain current vs. source-drain voltage

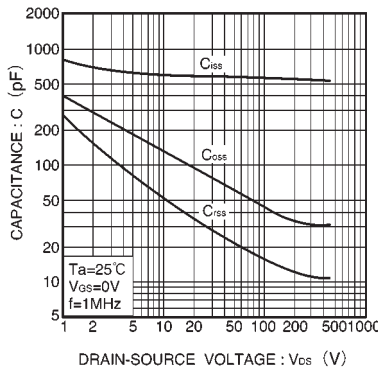


Fig.11 Typical capacitance vs. drain-source voltage

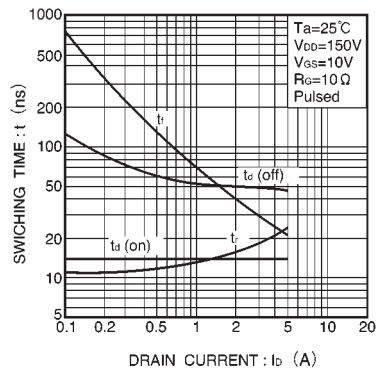


Fig.12 Switching characteristics (See Figures 16 and 17 for the measurement circuit and resultant waveforms)

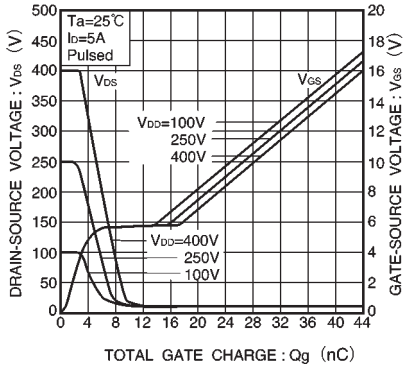


Fig.13 Dynamic input characteristics
(See Figure. 18 for measurement circuit)

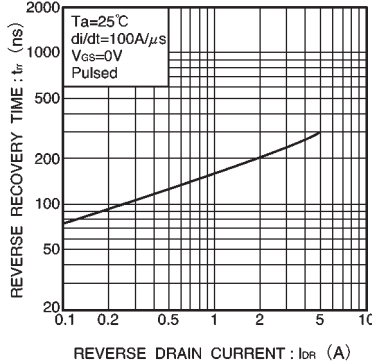


Fig.14 Reverse recovery time vs. reverse drain current

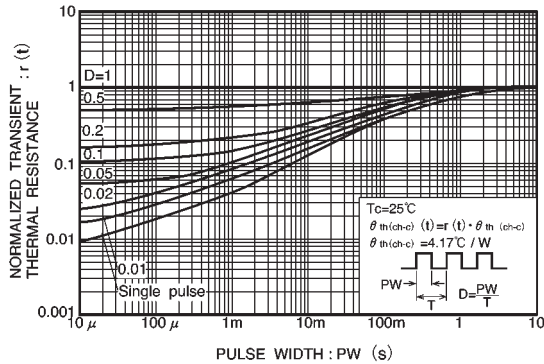


Fig.15 Normalized transient thermal resistance vs. pulse width

● Switching characteristics measurement circuit

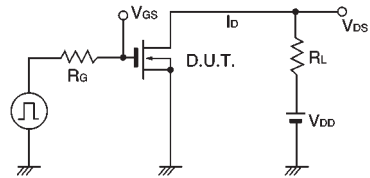


Fig.16 Switching time measurement circuit

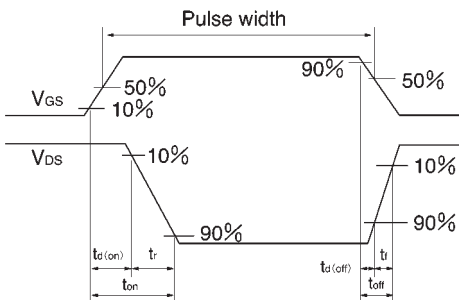


Fig.17 Switching time waveforms

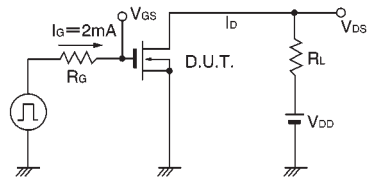


Fig.18 Gate charge measurement circuit

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