Switching (500V, 2A)
2SK2715
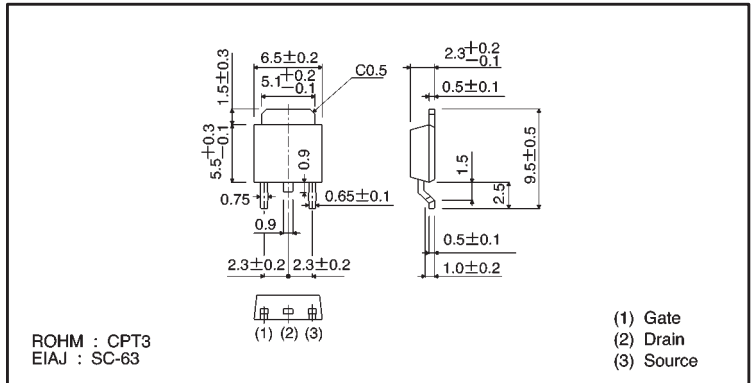
●Features
1) Low on-resistance.
2) Fast switching speed.
3) Wide SOA (safe operating area).
4) Gate-source voltage (V_{GSS}) guaran-
   teed to be ±30V.
5) Easily designed drive circuits.
6) Easy to use in parallel.

●Structure
Silicon N-channel
MOSFET

●External dimensions (Units: mm)

ROHM : CPT3
EIAJ : SC-63

(1) Gate
(2) Drain
(3) Source

●Absolute maximum ratings (Ta = 25°C)

Parameter		Symbol	Limits	Unit
Drain-source voltage		V_{DSS}	500	V
Gate-source voltage		V_{GSS}	±30	V
Drain current	Continuous	I_D	2	A
	Pulsed	I_{DP}*	6	A
Reverse drain current	Continuous	I_{DR}	2	A
	Pulsed	I_{DRP}*	6	A
Total power dissipation (Tc=25°C)		P_D	20	W
Channel temperature		Tch	150	°C
Storage temperature		Tstg	−55～+150	°C

＊ Pw≦10μs, Duty cycle≦1%

●Packaging specifications

Type	Package		Taping
	Code		TL
	Basic ordering unit (pieces)		2500
2SK2715			○

●Electrical characteristics (Ta = 25°C)

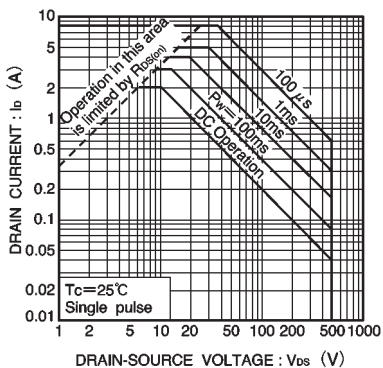| Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Gate-source leakage	I_{GSS}	—	—	±100	nA	V_{GS}＝±30V, V_{DS}＝0V
Drain-source breakdown voltage	$V_{(BR)DSS}$	500	—	—	V	I_D＝1mA, V_{GS}＝0V
Zero gate voltage drain current	I_{DSS}	—	—	100	μA	V_{DS}＝500V, V_{GS}＝0V
Gate threshold voltage	$V_{GS(th)}$	2.0	—	4.0	V	V_{DS}＝10V, I_D＝1mA
Static drain-source on-state resistance	$R_{DS(on)}$	—	3.0	4.0	Ω	I_D＝1A, V_{GS}＝10V
Forward transfer admittance	$\lvert Y_{fs} \rvert$	0.6	1.5	—	S	I_D＝1A, V_{DS}＝10V
Input capacitance	C_{iss}	—	280	—	pF	V_{DS}＝10V
Output capacitance	C_{oss}	—	58	—	pF	V_{GS}＝0V
Reverse transfer capacitance	C_{rss}	—	23	—	pF	f＝1MHz
Turn-on delay time	$t_{d(on)}$	—	10	—	ns	I_D＝1A, V_{DD}≒150V
Rise time	t_r	—	12	—	ns	V_{GS}＝10V
Turn-off delay time	$t_{d(off)}$	—	30	—	ns	R_L＝150Ω
Fall time	t_f	—	63	—	ns	R_G＝10Ω
Reverse recovery time	t_{rr}	—	410	—	ns	I_{DR}＝2A, V_{GS}＝0V
Reverse recovery charge	Q_{rr}	—	1.7	—	μC	di/dt＝100A/μs

●Electrical characteristic curves

Fig.1 Maximum safe operating area
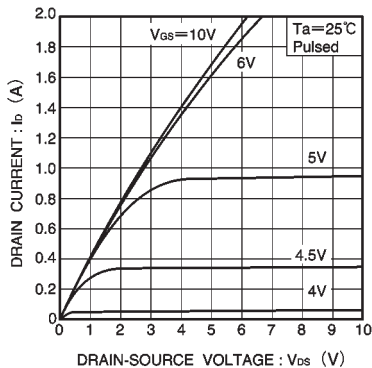

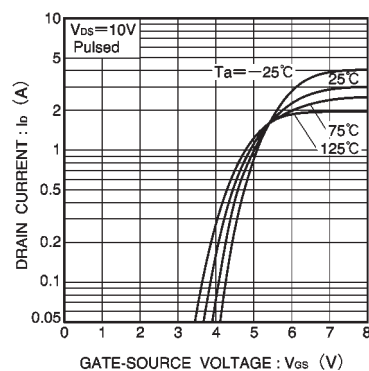Fig.2 Typical output characteristics

Fig.3 Typical transfer characteristics
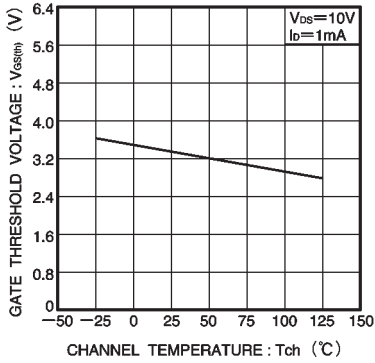
Fig.4 Gate threshold voltage
       vs. channel temperature
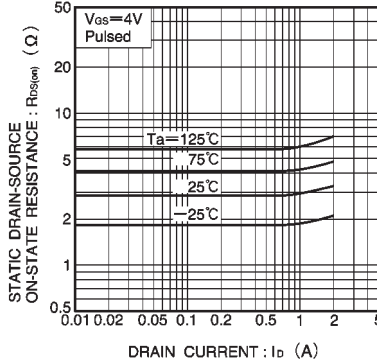

Fig.5 Static drain-source on-state
       resistance vs. drain current

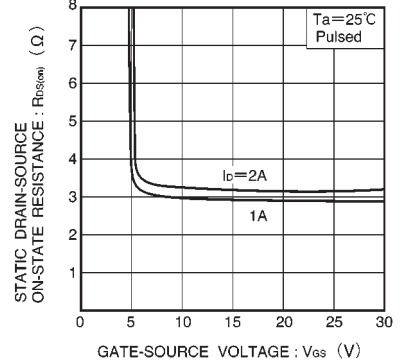Fig.6 Static drain-source
       on-state resistance vs.
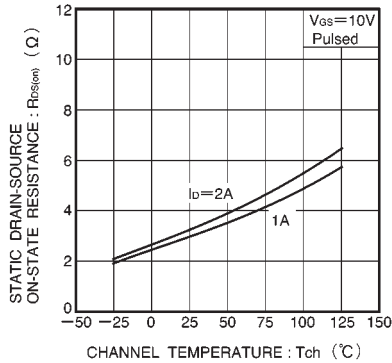   gate-source voltage

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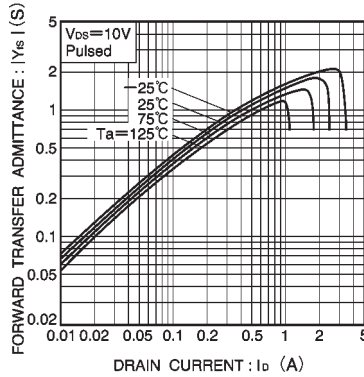   on-state resistance
       vs. channel temperature

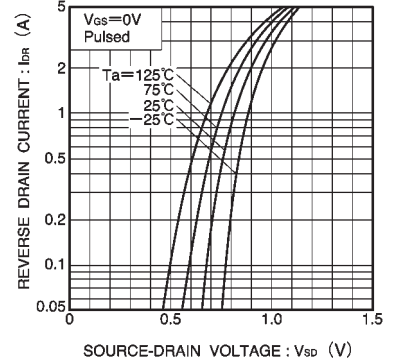Fig.8 Forward transfer admittance
       vs. drain current

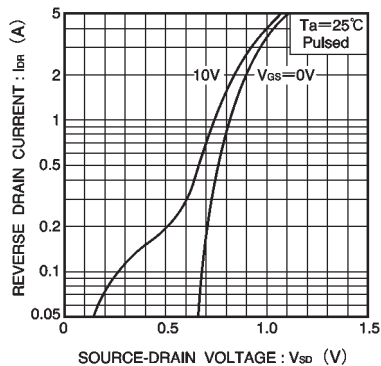Fig.9 Reverse drain current
       vs. source-drain voltage (Ⅰ)

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

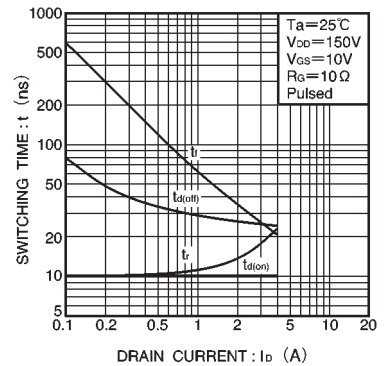Fig.11 Typical capacitance
        vs. drain-source voltage

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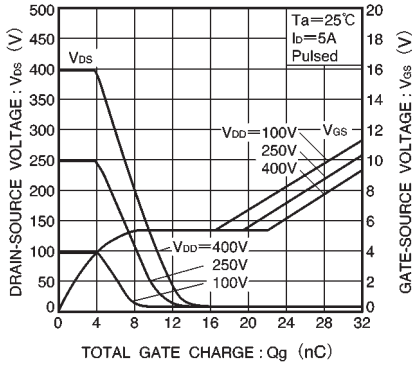   circuit and resultant waveforms)

ROHM

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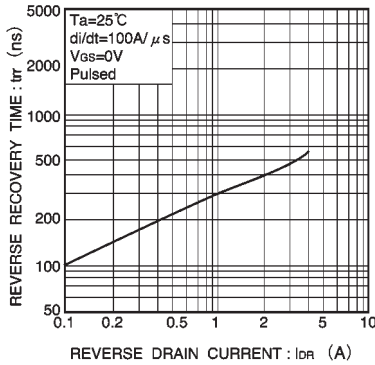(See Figure 18 for
measurement circuit)

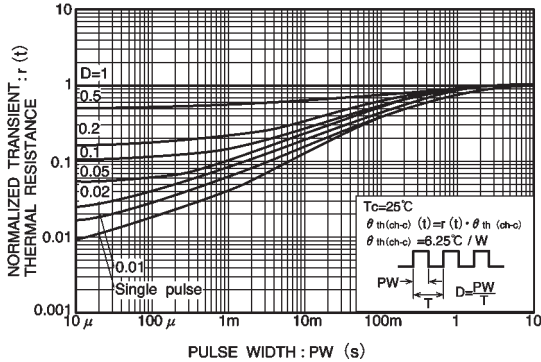Fig.14 Reverse recovery time
vs. reverse drain current

Fig.15 Normalized transient thermal
resistance vs. pulse width
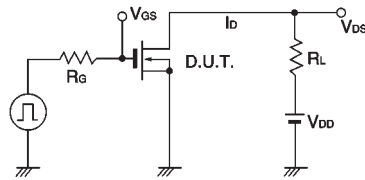
●Switching characteristics
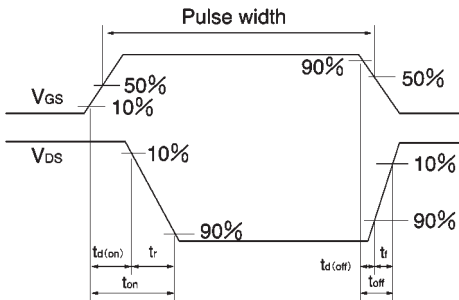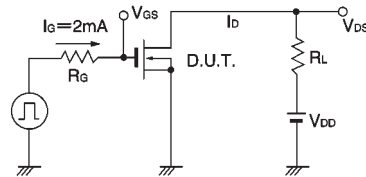measurement circuit

Fig.16 Switching time measurement circuit

Fig.17 Switching time waveforms

Fig.18 Gate charge measurement circuit