2SK1867

Silicon N-Channel Power F-MOS FET

■ Features

- Avalanche energy capacity guaranteed: EAS > 15mJ
- \bullet V_{GSS} = ± 30 V guaranteed
- High-speed switching: $t_f = 26$ ns
- No secondary breakdown
- Allowing to supply by the radial taping

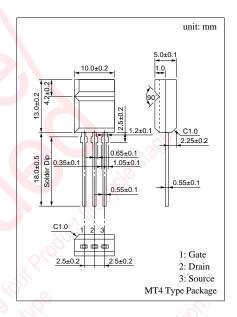
■ Applications

- Contactless relay
- Diving circuit for a solenoid
- Driving circuit for a motor
- Control equipment
- Switching power supply

■ Absolute Maximum Ratings $(T_C = 25^{\circ}C)$

Parameter		Symbol	Ratings	Unit	
Drain to Source breakdown voltage		V _{DSS}	900	V	
Gate to Source voltage		V _{GSS}	±30	V	
Drain current	DC	I_{D}	±2	Α	
	Pulse	I_{DP}	±6	A	
Avalanche energy capacity		EAS*	15	mJ	
Allowable power	$T_C = 25^{\circ}C$	D	15	S w	
dissipation	Ta = 25°C	$P_{\rm D}$	2	o Wile	
Channel temperature		T _{ch}	150	°C	
Storage temperature		T_{stg}	-55 to +150	°C	

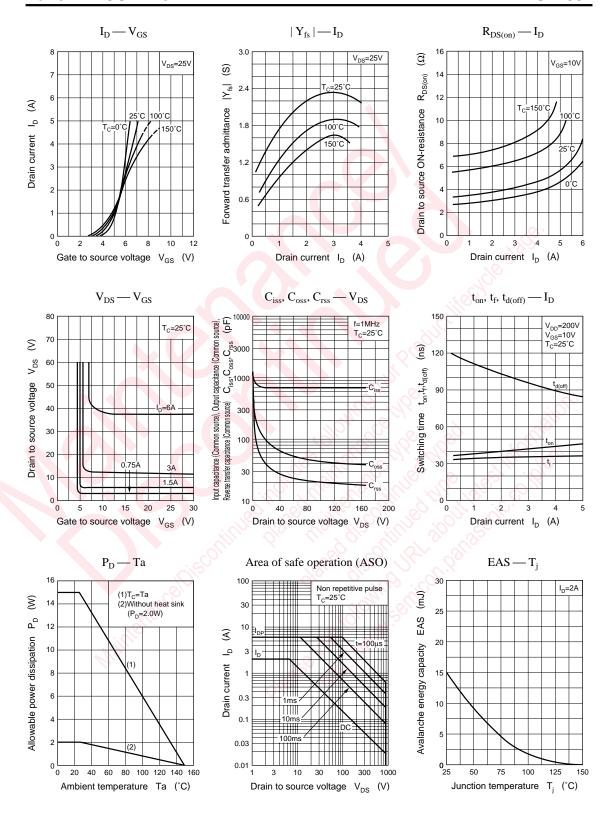
^{*} $L = 7.5 \text{mH}, I_L = 2 \text{A}, V_{DD} = 50 \text{V}, 1 \text{ pulse}$

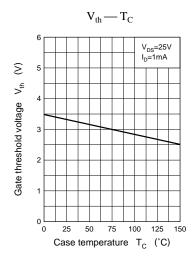


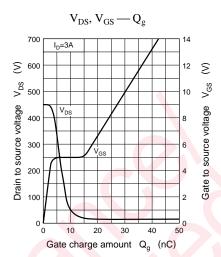
■ Electrical Characteristics (T_C = 25°C)

Parameter	Symbol	Conditions	min	typ	max	Unit
Drain to Source cut-off current	I_{DSS}	$V_{DS} = 900V, V_{GS} = 0$	o'lli		0.1	mA
Gate to Source leakage current	I_{GSS}	$V_{GS} = \pm 30V, V_{DS} = 0$	5		±1	μΑ
Drain to Source breakdown voltage	$V_{\rm DSS}$	$I_D = 1 \text{mA}, V_{GS} = 0$	900			V
Gate threshold voltage	V _{th}	$V_{DS} = 25V$, $I_D = 1mA$	1		5	V
Drain to Source ON-resistance	R _{DS(on)}	$V_{GS} = 10V, I_D = 2A$		3.8	4.85	Ω
Forward transfer admittance	Y _{fs}	$V_{DS} = 25V, I_D = 2A$	1.5	2		S
Diode forward voltage	V _{DSF}	$I_{DR} = 2A, V_{GS} = 0$			-1.6	V
Input capacitance (Common Source)	C _{iss}	$V_{DS} = 20V, V_{GS} = 0, f = 1MHz$		730		pF
Output capacitance (Common Source)	C _{oss}			90		pF
Reverse transfer capacitance (Common Source)	C _{rss}			40		pF
Turn-on time	t _{on}	$V_{GS} = 10V, I_D = 2A$		40		ns
Fall time	t _f			35		ns
Turn-off time (delay time)	t _{d(off)}	$V_{DD} = 200V, R_L = 100\Omega$		105		ns
Thermal resistance between channel and case	R _{th(ch-c)}				8.33	°C/W

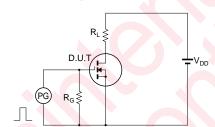
Panasonic 1



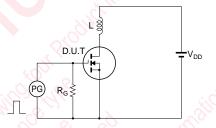




Switching measurement circuit



Avalanche energy capacity test circuit



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