

2SK1867

Silicon N-Channel Power F-MOS

■ Features

- Avalanche energy capability guaranteed : EAS >15mJ
- $V_{GS} = \pm 30V$ guaranteed
- High-speed switching: $t_f = 26ns$
- No secondary breakdown
- Radial taping possible

■ Applications

- Non-contact relay
- Solenoid drive
- Motor drive
- Control equipment
- Switching mode regulator

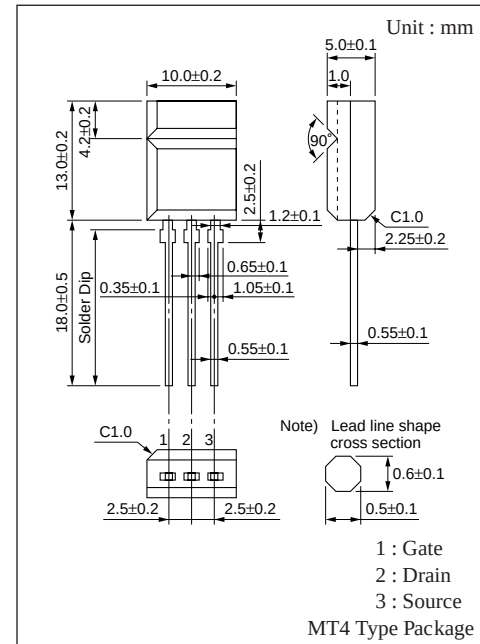
■ Absolute Maximum Ratings ($T_c = 25^\circ C$)

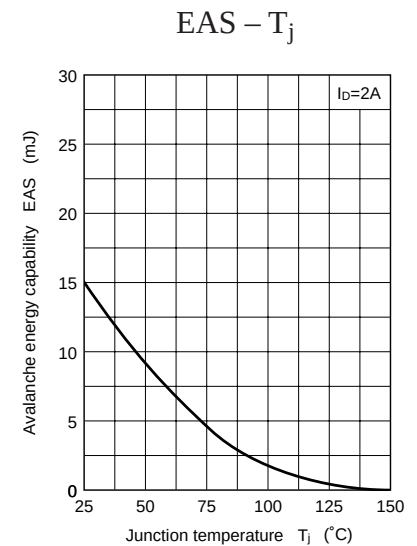
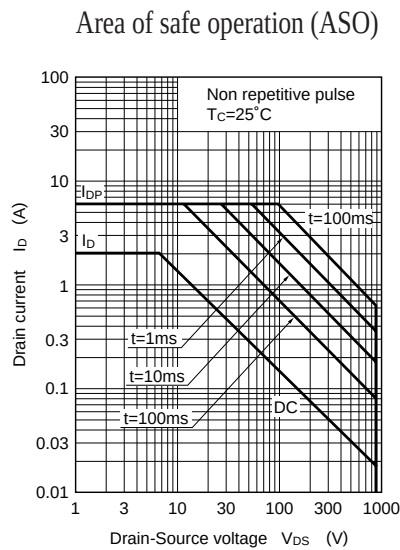
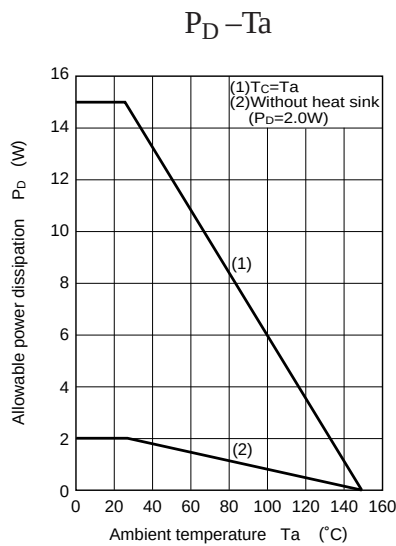
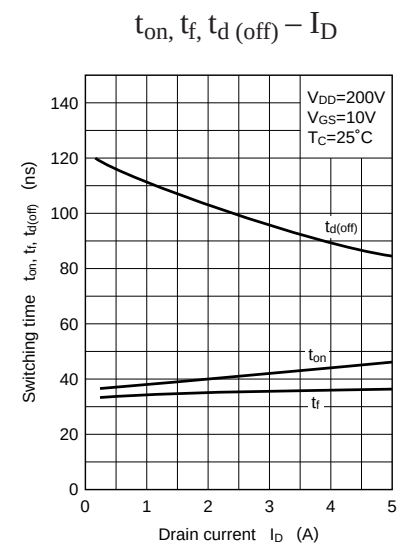
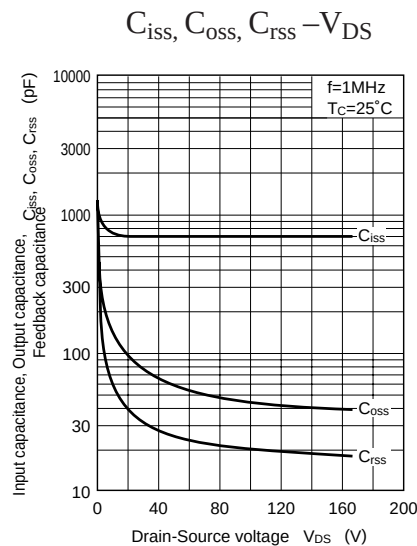
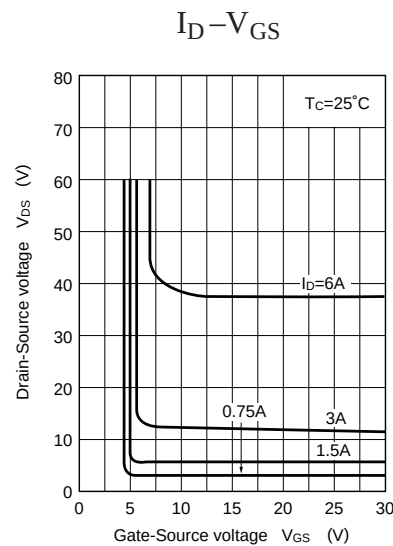
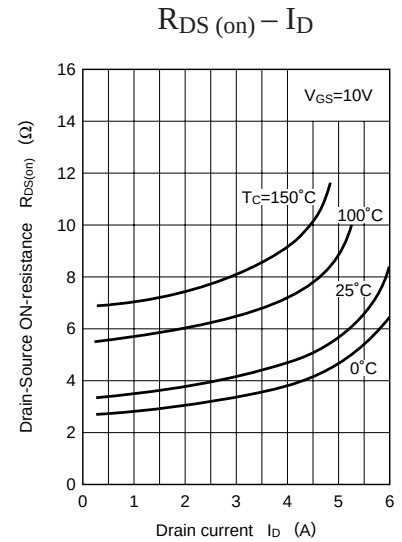
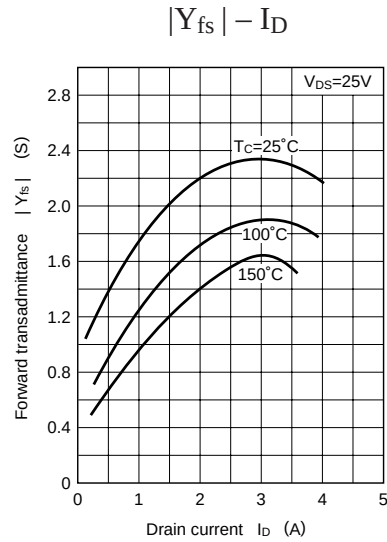
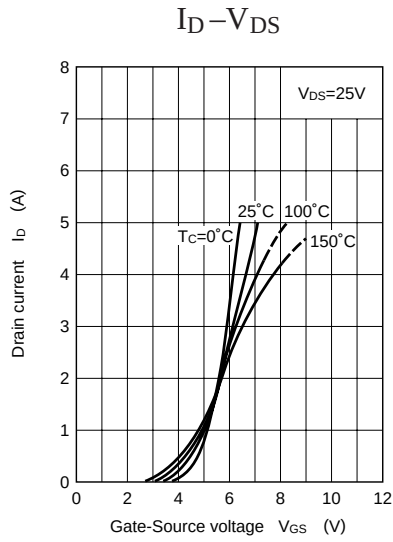
Parameter	Symbol	Rating	Unit
Drain-Source breakdown voltage	V_{DS}	900	V
Gate-Source voltage	V_{GS}	± 30	V
Drain current	DC	I_D	± 2 A
	Pulse	I_{DP}	± 6 A
Avalanche energy capability	EAS *	15	mJ
Allowable power dissipation	$T_c = 25^\circ C$	P_D	15 W
	$T_a = 25^\circ C$		2
Channel temperature	T_{ch}	150	$^\circ C$
Storage temperature	T_{stg}	-55 to +150	$^\circ C$

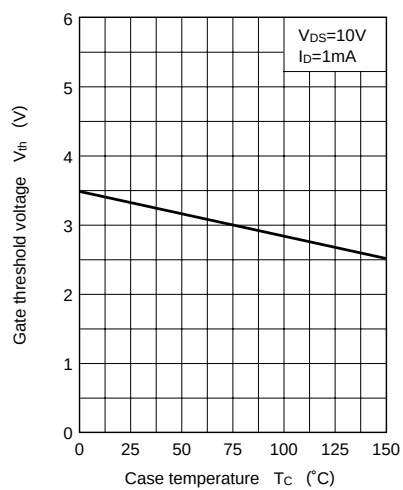
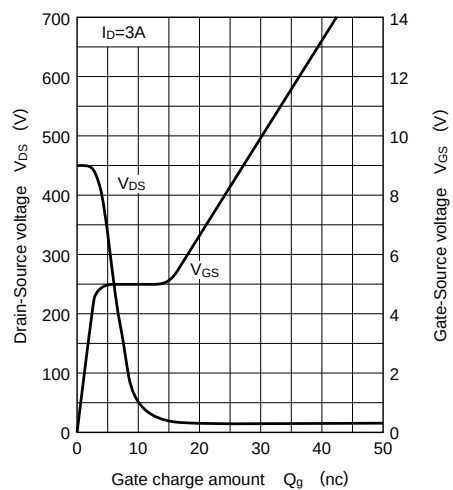
* $L = 7.5mH$, $I_L = 2A$, $V_{DD} = 50V$, 1 pulse

■ Electrical Characteristics ($T_c = 25^\circ C$)

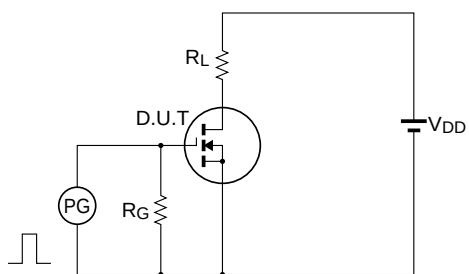
Parameter	Symbol	Condition	Min	Typ	Max	Unit
Drain-Source cut-off current	I_{DSS}	$V_{DS} = 900V$, $V_{GS} = 0$			0.1	mA
Gate-Source leakage current	I_{GSS}	$V_{GS} = \pm 30V$, $V_{DS} = 0$			± 1	μA
Drain-Source breakdown voltage	V_{DS}	$I_D = 1mA$, $V_{GS} = 0$	900			V
Gate threshold voltage	V_{th}	$V_{DS} = 25V$, $I_D = 1mA$	1		5	V
Drain-Source ON-resistance	$R_{DS(on)}$	$V_{GS} = 10V$, $I_D = 2A$		3.8	4.85	Ω
Forward transadmittance	$ 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	C_{iss}	$V_{DS} = 20V$, $V_{GS} = 0$, $f = 1MHz$		730		pF
Output capacitance	C_{oss}			90		pF
Feedback capacitance	C_{rss}			40		pF
Turn-on time	t_{on}	$V_{GS} = 10V$, $I_D = 2A$ $V_{DD} = 200V$, $R_L = 100\Omega$		40		ns
Fall time	t_f			35		ns
Turn-off time (delay time)	$t_{d(off)}$			105		ns
Channel-Case heat resistance	$R_{th(ch-c)}$				8.33	$^\circ C/W$





$V_{th} - T_C$  $V_{DS}, V_{GS} - Q_g$ 

Switching measurement circuit



Avalanche capability test circuit

