

# 2SK1255

## Silicon N-channel Power F-MOS FET

### ■ Features

- Low ON resistance  $R_{DS(on)}$  :  $R_{DS(on)1} = 0.135\Omega$  (typ.)
- High switching rate :  $t_f = 53ns$  (typ.)
- No secondary breakdown
- Low voltage drive is possible ( $V_{GS} = 4V$ ).

### ■ Application

- DC-DC converter
- No contact relay
- Solenoid drive
- Motor drive

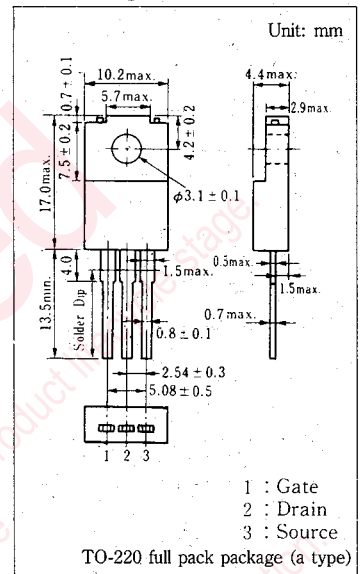
### ■ Absolute Maximum Ratings ( $T_c = 25^\circ C$ )

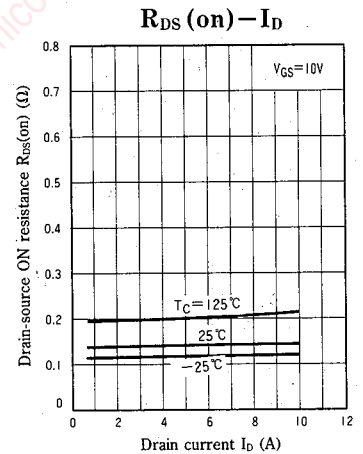
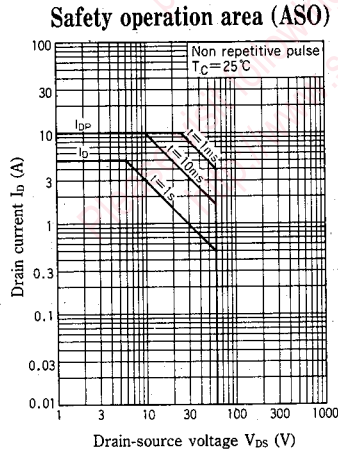
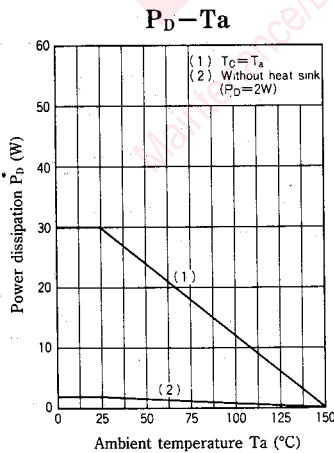
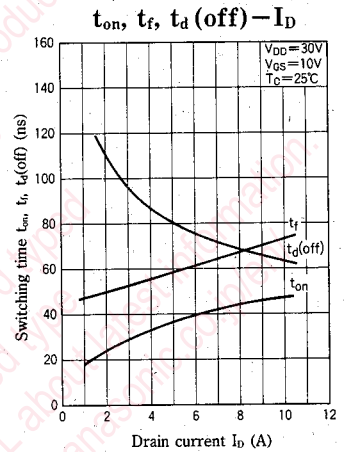
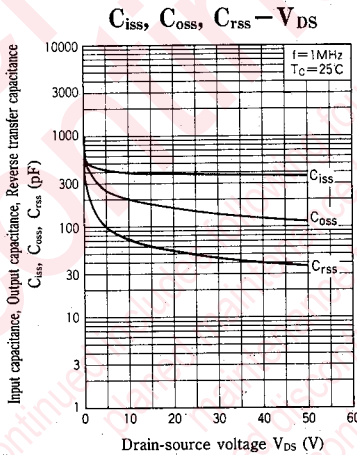
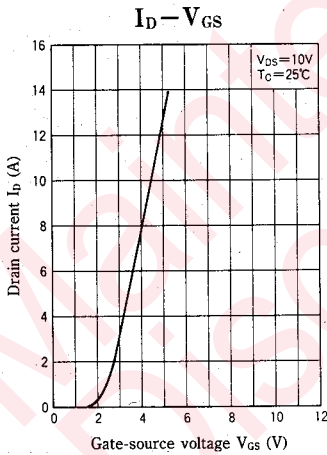
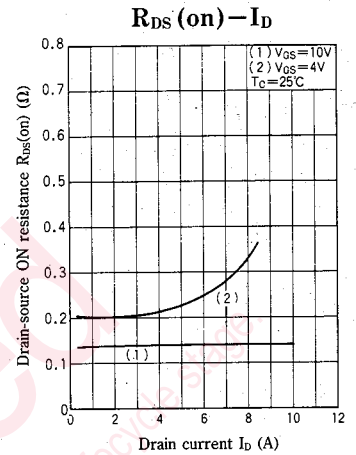
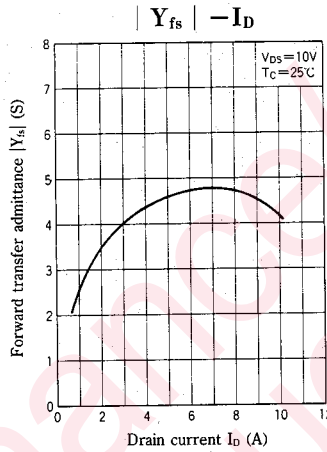
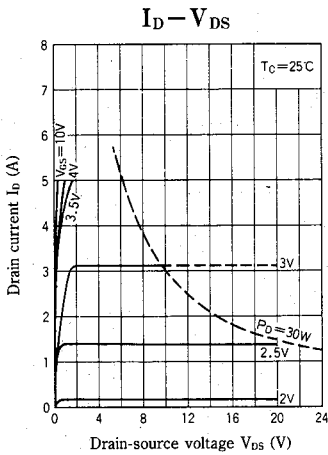
Item	Symbol	Value	Unit
Drain-source voltage	$V_{DSS}$	60	V
Gate-source voltage	$V_{GSS}$	$\pm 20$	V
Drain current	At 4V driving	$I_D$	3
	DC	$I_D$	5
	Peak-to-peak value	$I_{DP}$	10
Power dissipation	$T_c = 25^\circ C$	$P_D$	30
	$T_a = 25^\circ C$		2.0
Channel temperature	$T_{ch}$	150	$^\circ C$
Storage temperature	$T_{stg}$	$-55 \sim +150$	$^\circ C$

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

Item	Symbol	Condition	min.	typ.	max.	Unit
Drain current	$I_{DSS}$	$V_{DS} = 40V, V_{GS} = 0$			10	$\mu A$
Gate-source current	$I_{GSS}$	$V_{GS} = \pm 20V, V_{DS} = 0$			$\pm 1$	$\mu A$
Drain-source voltage	$V_{DSS}$	$I_D = 1mA, V_{GS} = 0$	60			V
Gate threshold voltage	$V_{th}$	$V_{DS} = 10V, I_D = 1mA$	1		2.5	V
Drain-source ON resistance	$R_{DS(on)1}$	$V_{GS} = 10V, I_D = 3A$		0.135	0.2	$\Omega$
Drain-source ON resistance	$R_{DS(on)2}$	$V_{GS} = 4V, I_D = 2A$		0.2	0.3	$\Omega$
Forward transfer admittance	$ Y_{fs} $	$V_{DS} = 10V, I_D = 3A$	2.4	4.0		S
Input capacitance	$C_{iss}$			400		pF
Output capacitance	$C_{oss}$	$V_{DS} = 10V, V_{GS} = 0, f = 1MHz$		210		pF
Reverse transfer capacitance	$C_{rss}$			80		pF
Turn-on time	$t_{on}$	$V_{GS} = 10V, I_D = 3A$		29		ns
Fall time	$t_f$	$V_{DD} = 30V, R_L = 10\Omega$		53		ns
Delay time	$t_d(off)$			97		ns

### ■ Package Dimensions





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