

# 2SK757

## Silicon N-channel Power F-MOS FET

### ■ Features

- Low ON resistance  $R_{DS(on)}$  :  $R_{DS(on)} = 0.22\Omega$  (typ.)
- High switching rate :  $t_r = 60\text{ns}$  (typ.)
- No secondary breakdown

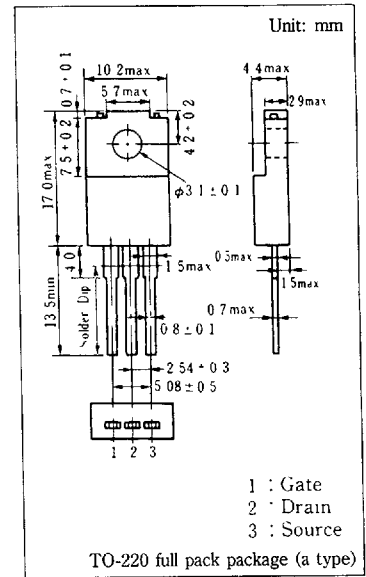
### ■ Application

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

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

Item	Symbol	Value	Unit
Drain-source voltage	$V_{DSS}$	200	V
Gate-source voltage	$V_{GSS}$	$\pm 20$	V
Drain current	DC	$I_D$	10
	Peak-to-peak value	$I_{DP}$	20
Power dissipation	$T_c = 25^\circ\text{C}$	$P_D$	50
	$T_a = 25^\circ\text{C}$		2.0
Channel temperature	$T_{ch}$	150	$^\circ\text{C}$
Storage temperature	$T_{stg}$	$-55 \sim +150$	$^\circ\text{C}$

### ■ Package Dimensions



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

Item	Symbol	Condition	min.	typ.	max.	Unit	
Drain current	$I_{DSS}$	$V_{DS} = 160\text{V}$ , $V_{GS} = 0$			0.1	mA	
Gate-source current	$I_{GSS}$	$V_{GS} = \pm 20\text{V}$ , $V_{DS} = 0$			$\pm 1$	$\mu\text{A}$	
Drain-source voltage	$V_{DSS}$	$I_D = 1\text{mA}$ , $V_{GS} = 0$	200			V	
Gate threshold voltage	$V_{th}$	$V_{DS} = 10\text{V}$ , $I_D = 1\text{mA}$	1		5	V	
Drain-source ON resistance	$R_{DS(on)}$	$V_{GS} = 10\text{V}$ , $I_D = 5\text{A}$		0.22	0.33	$\Omega$	
Forward transfer admittance	$ Y_{fs} $	$V_{GS} = 10\text{V}$ , $I_D = 5\text{A}$	2.7	4.5		S	
Input capacitance	$C_{iss}$	$V_{DS} = 10\text{V}$ , $V_{GS} = 0$ , $f = 1\text{MHz}$		855		pF	
Output capacitance	$C_{oss}$				330		pF
Reverse transfer capacitance	$C_{rss}$				150		pF
Turn-on time	$t_{on}$		$V_{GS} = 10\text{V}$ , $I_D = 5\text{A}$		60		ns
Fall time	$t_f$	$V_{DD} = 100\text{V}$ , $R_L = 20\Omega$		60		ns	
Delay time	$t_d(\text{off})$			150			ns

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