

2SK705

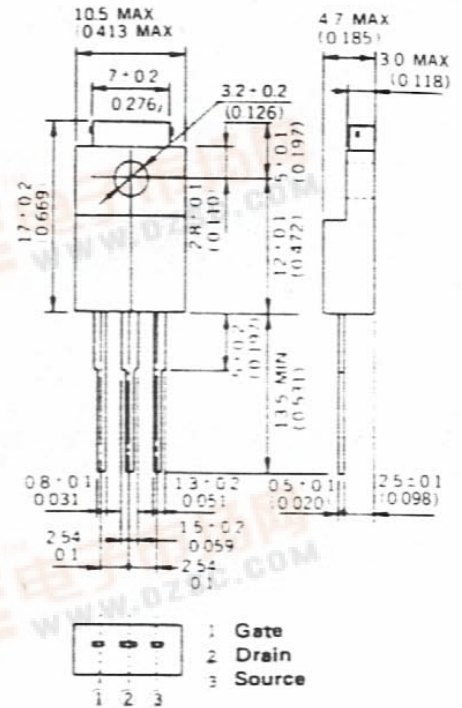
DESCRIPTION

The 2SK705 is N-Channel MOS Field Effect Power Transistor designed for solenoid, motor and lamp driver.

FEATURES

- 4 V Gate Drive – Logic level –
- Low $R_{DS(on)}$
- No Secondary Breakdown

PACKAGE DIMENSIONS
in millimeters (inches)



ABSOLUTE MAXIMUM RATINGS

Maximum Temperatures

- Storage Temperature -55 to +150 °C
- Channel Temperature 150 °C Maximum

Maximum Power Dissipations

- Total Power Dissipation ($T_a = 25\text{ °C}$) . . . 2.0 W
- Total Power Dissipation ($T_c = 25\text{ °C}$) . . . 35 W

Maximum Voltages and Currents ($T_a = 25\text{ °C}$)

- V_{DSS} Drain to Source Voltage 60 V
- V_{GSS} Gate to Source Voltage ±20 V
- $I_{D(DC)}$ Drain Current (DC) ±5 A
- $I_{D(pulse)}$ Drain Current (pulse)* ±20 A

*PW ≤ 300 μs, Duty Cycles ≤ 2 %

ELECTRICAL CHARACTERISTICS ($T_a = 25\text{ °C}$)

SYMBOL	CHARACTERISTIC	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
$R_{DS(on)}$	Drain to Source On-State Resistance		0.11	0.25	Ω	$V_{GS} = 10\text{ V}, I_D = 5\text{ A}$
$R_{DS(on)}$	Drain to Source On-State Resistance		0.17	0.30	Ω	$V_{GS} = 4\text{ V}, I_D = 5\text{ A}$
$V_{GS(off)}$	Gate to Source Cutoff Voltage	1.0		2.5	V	$V_{DS} = 10\text{ V}, I_D = 1\text{ mA}$
$ y_{fs} $	Forward Transfer Admittance	5.0			S	$V_{DS} = 10\text{ V}, I_D = 3\text{ A}$
I_{DSS}	Drain Leakage Current			10	μA	$V_{DS} = 60\text{ V}, V_{GS} = 0$
I_{GSS}	Gate to Source Leakage Current			±100	nA	$V_{GS} = \pm 20\text{ V}, V_{DS} = 0$
C_{iss}	Input Capacitance		900		pF	$V_{DS} = 10\text{ V}$
C_{oss}	Output Capacitance		350		pF	$V_{GS} = 0$
C_{rfs}	Reverse Transfer Capacitance		100		pF	$f = 1\text{ MHz}$
$t_{d(on)}$	Turn-On Delay Time		10		ns	
t_r	Rise Time		40		ns	

$I_D = 3\text{ A}, V_{CC} = 50\text{ V}$
 $R_{\theta} = 17\text{ °C/W}, V_{GS} = 10\text{ V}$

