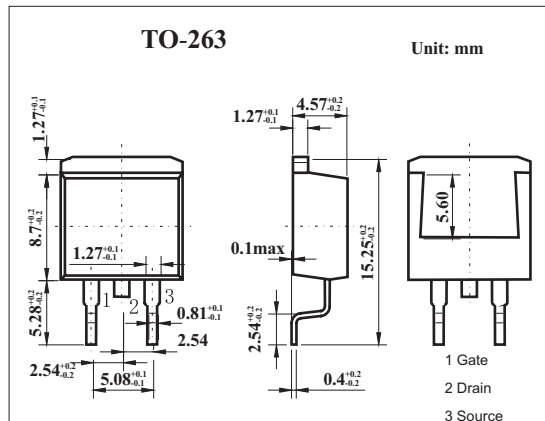


# 2SK3713

### ■ Features

- Super high  $V_{GS(off)}$ :  $V_{GS(off)} = 3.8$  to  $5.8$  V
- Low  $C_{rss}$ :  $C_{rss} = 6.5$  pF TYP.
- Low  $Q_G$ :  $Q_G = 25$  nC TYP.
- Low on-state resistance:  
 $R_{DS(on)} = 0.83 \Omega$  MAX. ( $V_{GS} = 10$  V,  $I_D = 5$  A)



### ■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

Parameter	Symbol	Rating	Unit
Drain to source voltage	$V_{DS}$	600	V
Gate to source voltage	$V_{GS}$	$\pm 30$	V
Drain current	$I_D$	$\pm 10$	A
	$I_{dp}^*$	$\pm 35$	A
Power dissipation	$P_D$	$T_A=25^\circ\text{C}$	1.5
		$T_C=25^\circ\text{C}$	100
Channel temperature	$T_{ch}$	150	$^\circ\text{C}$
Storage temperature	$T_{stg}$	-55 to +150	$^\circ\text{C}$

\*  $PW \leq 10 \mu s$ , Duty Cycle  $\leq 1\%$

### ■ Electrical Characteristics $T_a = 25^\circ\text{C}$

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit	
Drain cut-off current	$I_{DSS}$	$V_{DS}=600V, V_{GS}=0$			10	$\mu A$	
Gate leakage current	$I_{GSS}$	$V_{GS} = \pm 30V, V_{DS}=0$			$\pm 100$	nA	
Gate cut off voltage	$V_{GS(off)}$	$V_{DS}=10V, I_D=1mA$	3.8	4.8	5.8	V	
Forward transfer admittance	$ Y_{fs} $	$V_{DS}=10V, I_D=5A$	2.5	4.6		S	
Drain to source on-state resistance	$R_{DS(on)}$	$V_{GS}=10V, I_D=5A$		0.68	0.83	$\Omega$	
Input capacitance	$C_{iss}$	$V_{DS}=10V, V_{GS}=0, f=1MHz$		1460		pF	
Output capacitance	$C_{oss}$				250		pF
Reverse transfer capacitance	$C_{rss}$				6.5		pF
Turn-on delay time	$t_{on}$				26		ns
Rise time	$t_r$	$I_D=5A, V_{GS(on)}=10V, R_G=0 \Omega, V_{DD}=150V$		8.5		ns	
Turn-off delay time	$t_{off}$				30		ns
Fall time	$t_f$				5.2		ns
Total Gate Charge	$Q_G$		$V_{DD} = 450V$		25		nC
Gate to Source Charge	$Q_{GS}$	$V_{GS} = 10 V$		12		nC	
Gate to Drain Charge	$Q_{GD}$	$I_D = 10A$		9		nC	