MOS Field Effect Transistor
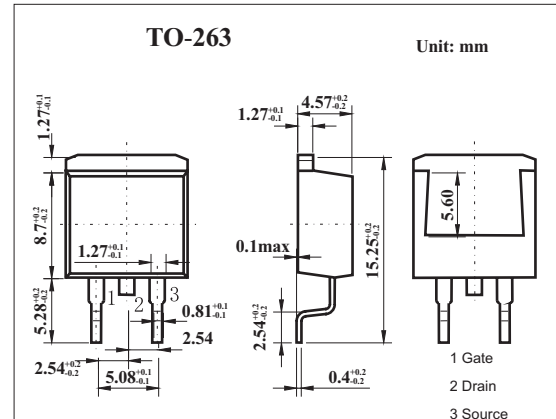# 2SK3575

■ Features

● 4.5V drive available.

● Low on-state resistance,

  $R_{DS(on)1}$ = 4.5mΩ MAX. (V_{GS} = 10 V, I_D = 42A)

● Low gate charge

  Q_G = 70nC TYP. (V_{DD} = 24 V, V_{GS} = 10 V, I_D = 83 A)

● Built-in gate protection diode

● Surface mount device available

TO-263   Unit: mm

1 Gate
2 Drain
3 Source

■ Absolute Maximum Ratings Ta = 25℃

Parameter		Symbol	Rating	Unit
Drain to source voltage		V_{DSS}	30	V
Gate to source voltage		V_{GSS}	$\pm$20	V
Drain current	I_D	$\pm$83	A
	I_{dp} *	$\pm$332	A
Power dissipation Tc=25℃		P_D	105	W
TA=25℃			1.5	
Channel temperature		T_{ch}	150	℃
Storage temperature		T_{stg}	-55 to +150	℃

* PW≤10μs,Duty Cycle≤1%

■ Electrical Characteristics Ta = 25℃

Parameter	Symbol	Testconditons	Min	Typ	Max	Unit
Drain cut-off current	I_{DSS}	V_{DS}=30V,V_{GS}=0			10	μA
Gate leakage current	I_{GSS}	V_{GS}=$\pm$20V,V_{DS}=0			$\pm$100	μA
Gate cut off voltage	$V_{GS(off)}$	V_{DS}=10V,I_D=1mA	1.5		2.5	V
Forward transfer admittance	$|Y_{fs}|$	V_{DS}=10V,I_D=42A	27			S
Drain to source on-state resistance	$R_{DS(on)1}$	V_{GS}=10V,I_D=42A		3.3	4.5	mΩ
	$R_{DS(on)2}$	V_{GS}=4.5V,I_D=42A		4.3	6.4	mΩ
Input capacitance	C_{iss}	V_{DS}=10V,V_{GS}=0,f=1MHZ		3700		pF
Output capacitance	C_{oss}			1430		pF
Reverse transfer capacitance	C_{rss}			500		pF
Turn-on delay time	t_{on}	I_D=42A,$V_{GS(on)}$=10V,R_G=10Ω,V_{DD}=15V		26		ns
Rise time	t_r			27		ns
Turn-off delay time	t_{off}			110		ns
Fall time	t_f			40		ns
Total Gate Charge	Q_G	V_{DD} = 24V V_{GS} = 10 V I_D = 83A		70		nC
Gate to Source Charge	Q_{GS}			12		nC
Gate to Drain Charge	Q_{GD}			20		nC