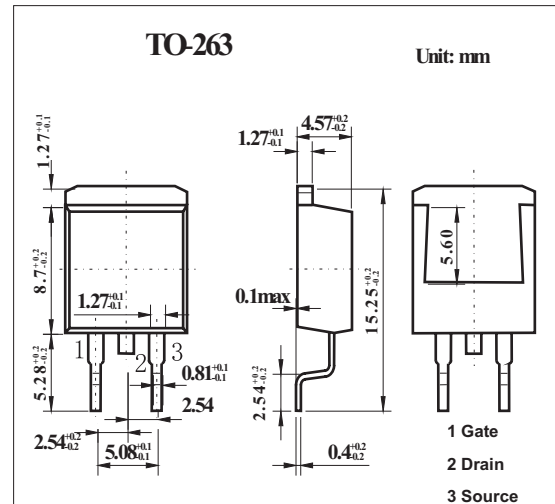


## MOS Field Effect Transistor

## 2SK3325

## ■ Features

- Low gate charge:  
Q<sub>G</sub> = 22 nC TYP. (V<sub>DD</sub> = 400 V, V<sub>GS</sub> = 10 V, I<sub>D</sub> = 10 A)  
Gate voltage rating: ±30 V
- Low on-state resistance  
R<sub>BS(on)</sub> = 0.85 Ω MAX. (V<sub>GS</sub> = 10 V, I<sub>D</sub> = 5.0 A)
- Avalanche capability ratings



## ■ Absolute Maximum Ratings Ta = 25°C

Parameter	Symbol	Rating	Unit
Drain to Source Voltage	V <sub>DSS</sub>	500	V
Gate to Source Voltage	V <sub>GSS</sub>	±30	V
Drain Current(DC)	I <sub>D(DS)</sub>	±10	A
Drain Current(pulse) *1	I <sub>D(pulse)</sub>	±40	A
Total Power Dissipation (T <sub>A</sub> = 25°C)	P <sub>T</sub>	1.5	W
Total Power Dissipation (T <sub>C</sub> = 25°C)		85	
Channel Temperature	T <sub>ch</sub>	150	°C
Storage temperature	T <sub>stg</sub>	-55 to +150	°C
Single Avalanche Current *2	I <sub>AS</sub>	10	A
Single Avalanche Energy *2	E <sub>AS</sub>	10.7	mJ

\*1. PW ≤ 10 μs, D duty cycle ≤ 1%.

\*2. Starting T<sub>ch</sub> = 25°C, V<sub>DD</sub> = 150 V, R<sub>G</sub> = 25 Ω, V<sub>GS</sub> = 20 V → 0 V

## 2SK3325

## ■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Testconditons	Min	Typ	Max	Unit
Drain Cut-off Current	I <sub>DSS</sub>	V <sub>DS</sub> = 500 V, V <sub>GS</sub> = 0 V			100	μA
Gate Leakage Current	I <sub>GSS</sub>	V <sub>GS</sub> = ±30 V, V <sub>DS</sub> = 0 V			±100	nA
Gate Cut-off Voltage	V <sub>GS(off)</sub>	V <sub>DS</sub> = 10 V, I <sub>D</sub> = 1 mA	2.5		3.5	V
Forward Transfer Admittance	Y <sub>fs</sub>	V <sub>DS</sub> = 10 V, I <sub>D</sub> = 5.0 A	2.0	4.0		S
Drain to Source On-state Resistance	R <sub>DS(on)</sub>	V <sub>GS</sub> = 10 V, I <sub>D</sub> = 5.0 A		0.68	0.85	Ω
Input Capacitance	C <sub>iss</sub>	V <sub>DS</sub> = 10 V, V <sub>GS</sub> = 0 V, f = 1 MHz		1200		pF
Output Capacitance	C <sub>oss</sub>			190		pF
Feedback Capacitance	C <sub>rss</sub>			10		pF
Turn-on Delay Time	t <sub>d(on)</sub>	V <sub>DD</sub> = 150 V, I <sub>D</sub> = 5.0 A, V <sub>GS(on)</sub> = 10 V, R <sub>G</sub> = 10 Ω, R <sub>L</sub> = 60 Ω		21		ns
Rise Time	t <sub>r</sub>			11		ns
Turn-off Delay Time	t <sub>d(off)</sub>			40		ns
Fall Time	t <sub>f</sub>			9.5		ns
Total Gate Charge	Q <sub>g</sub>		V <sub>DD</sub> = 400 V, V <sub>GS</sub> = 10 V, I <sub>D</sub> = 10 A		22	
Gate-Source Charge	Q <sub>gs</sub>			6.5		nC
Gate-Drain Charge	Q <sub>gd</sub>			7.5		nC
Diode Forward Voltage	V <sub>F(S-D)</sub>	I <sub>F</sub> = 10 A, V <sub>GS</sub> = 0 V		1.0		V
Reverse Recovery Time	t <sub>rr</sub>	I <sub>F</sub> = 10 A, V <sub>GS</sub> = 0 V, di/dt = 50 A / μs		0.5		μs
Reverse Recovery Charge	Q <sub>rr</sub>			2.6		μC