

# 2SK3002

External dimensions 1 ..... FM20

## Absolute Maximum Ratings (Ta = 25°C)

Symbol	Ratings	Unit
V <sub>DSS</sub>	200	V
V <sub>GSS</sub>	±20	V
I <sub>D</sub>	±8	A
I <sub>D</sub> (pulse) *1	±32	A
P <sub>D</sub>	30 (T <sub>c</sub> = 25°C)	W
E <sub>AS</sub> *2	55	mJ
I <sub>AS</sub>	8	A
T <sub>ch</sub>	150	°C
T <sub>stg</sub>	-55 to +150	°C

\*1: P<sub>w</sub> ≤ 100μs, duty cycle ≤ 1%

\*2: V<sub>DD</sub> = 50V, L = 1.5mH, I<sub>L</sub> = 8A, unclamped, R<sub>G</sub> = 50Ω, See Figure 1 on Page 5.

## Electrical Characteristics (Ta = 25°C)

Symbol	Ratings			Unit	Conditions
	min	typ	max		
V <sub>(BR)DSS</sub>	200			V	I <sub>D</sub> = 100μA, V <sub>GS</sub> = 0V
I <sub>GSS</sub>			±100	nA	V <sub>GS</sub> = ±20V
I <sub>DSS</sub>			100	μA	V <sub>DS</sub> = 200V, V <sub>GS</sub> = 0V
V <sub>TH</sub>	2.0		4.0	V	V <sub>DS</sub> = 10V, I <sub>D</sub> = 1mA
Re (yfs)	2.5	5.5		S	V <sub>DS</sub> = 10V, I <sub>D</sub> = 4A
R <sub>DS(on)</sub>		270	350	mΩ	V <sub>GS</sub> = 10V, I <sub>D</sub> = 4A
C <sub>iss</sub>		450		pF	V <sub>DS</sub> = 10V, f = 1.0MHz, V <sub>GS</sub> = 0V
C <sub>oss</sub>		280		pF	
C <sub>rss</sub>		120		pF	
t <sub>d(on)</sub>		15		ns	I <sub>D</sub> = 4A, V <sub>DD</sub> ≐ 100V, R <sub>L</sub> = 25Ω, V <sub>GS</sub> = 10V, See Figure 2 on Page 5.
t <sub>r</sub>		25		ns	
t <sub>d(off)</sub>		50		ns	
t <sub>f</sub>		65		ns	
V <sub>SD</sub>		1.0	1.5	V	I <sub>SD</sub> = 8A, V <sub>GS</sub> = 0V
t <sub>rr</sub>		450		ns	I <sub>SD</sub> = ±100mA