

# 2SK2421

External dimensions 1 ..... FM20

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

Symbol	Ratings	Unit
V <sub>DSS</sub>	60	V
V <sub>GSS</sub>	±20	V
I <sub>D</sub>	±40	A
I <sub>D</sub> (pulse) *1	±160	A
P <sub>D</sub>	40 (T <sub>c</sub> = 25°C)	W
E <sub>AS</sub> *2	60	mJ
I <sub>AS</sub>	40	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> = 20V, L = 50μH, I<sub>L</sub> = 40A, 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>	60			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> = 60V, V <sub>GS</sub> = 0V
V <sub>TH</sub>	2.0		4.0	V	V <sub>DS</sub> = 10V, I <sub>D</sub> = 1mA
R <sub>e</sub> (yfs)	18	25		S	V <sub>DS</sub> = 10V, I <sub>D</sub> = 20A
R <sub>DS (on)</sub>		17.5	20	mΩ	V <sub>GS</sub> = 10V, I <sub>D</sub> = 20A
C <sub>iss</sub>		2400		pF	V <sub>DS</sub> = 25V, f = 1.0MHz, V <sub>GS</sub> = 0V
C <sub>oss</sub>		950		pF	V <sub>DS</sub> = 25V, f = 1.0MHz, V <sub>GS</sub> = 0V
t <sub>on</sub>		400		ns	I <sub>D</sub> = 20A, V <sub>DD</sub> = 30V, R <sub>L</sub> = 1.5Ω, V <sub>GS</sub> = 10V, See Figure 2 on Page 5.
t <sub>off</sub>		195		ns	I <sub>D</sub> = 20A, V <sub>DD</sub> = 30V, R <sub>L</sub> = 1.5Ω, V <sub>GS</sub> = 10V, See Figure 2 on Page 5.

