

# FKV550T

External dimensions 1 ..... FM20

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

Symbol	Ratings	Unit
V <sub>DSS</sub>	50	V
V <sub>GSS</sub>	±20	V
I <sub>D</sub>	±50	A
I <sub>D</sub> (pulse) *1	±150	A
P <sub>D</sub>	35 (Tc = 25°C)	W
EAS *2	150	mJ
I <sub>AS</sub>	50	A
T <sub>ch</sub>	150	°C
T <sub>stg</sub>	-55 to +150	°C

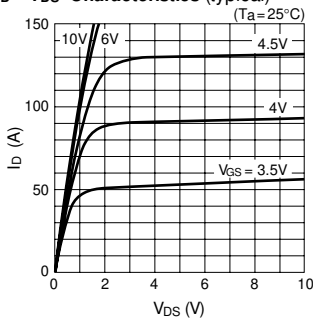
\*1: P<sub>w</sub> ≤ 100μs, duty cycle ≤ 1%

\*2: V<sub>DD</sub> = 20V, L = 72μH, I<sub>AS</sub> = 50A, unclamped, R<sub>G</sub> = 50Ω, See Figure 1 on Page 5.

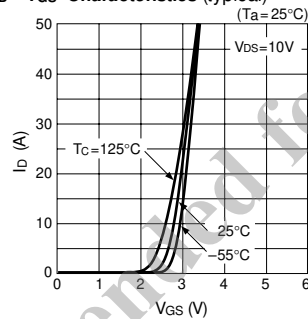
## Electrical Characteristics (Ta = 25°C)

Symbol	Ratings			Unit	Conditions
	min	typ	max		
V <sub>(BR)DSS</sub>	50			V	I <sub>D</sub> = 100μA, V <sub>GS</sub> = 0V
I <sub>GSS</sub>			±10	μA	V <sub>GS</sub> = ±20V
I <sub>DSS</sub>			100	μA	V <sub>DS</sub> = 50V, V <sub>GS</sub> = 0V
V <sub>TH</sub>	1.0		2.5	V	V <sub>DS</sub> = 10V, I <sub>D</sub> = 250μA
R <sub>e(yfs)</sub>	20			S	V <sub>DS</sub> = 10V, I <sub>D</sub> = 25A
R <sub>DS(on)</sub>		10	13	mΩ	V <sub>GS</sub> = 10V, I <sub>D</sub> = 25A
C <sub>iss</sub>		2700		pF	V <sub>DS</sub> = 10V, f = 1.0MHz, V <sub>GS</sub> = 0V
C <sub>oss</sub>		1100		pF	
C <sub>rss</sub>		500		pF	
t <sub>d(on)</sub>		20		ns	I <sub>D</sub> = 25A, V <sub>DD</sub> = 12V, R <sub>L</sub> = 0.48Ω, V <sub>GS</sub> = 10V See Figure 2 on Page 5.
t <sub>r</sub>		600		ns	
t <sub>d(off)</sub>		300		ns	
t <sub>f</sub>		100		ns	
V <sub>SD</sub>		1.0	1.5	V	I <sub>SD</sub> = 50A, V <sub>GS</sub> = 0V

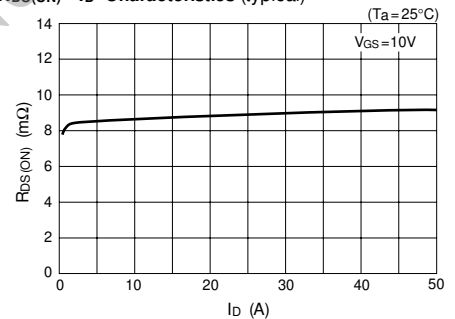
I<sub>D</sub> - V<sub>DS</sub> Characteristics (typical)



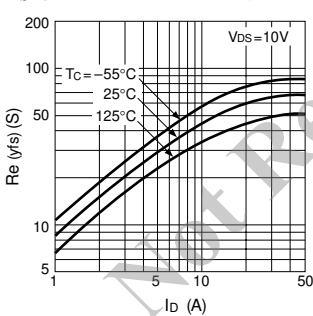
I<sub>D</sub> - V<sub>GS</sub> Characteristics (typical)



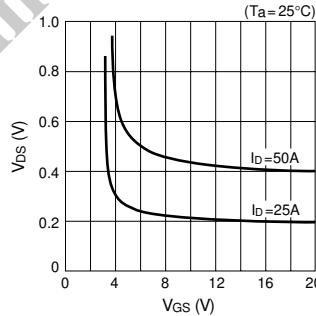
R<sub>DS(ON)</sub> - I<sub>D</sub> Characteristics (typical)



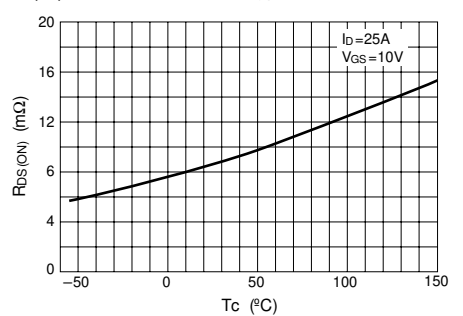
R<sub>e(yfs)</sub> - I<sub>D</sub> Characteristics (typical)



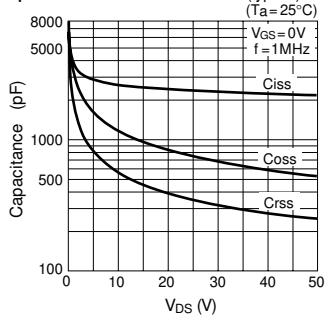
V<sub>DS</sub> - V<sub>GS</sub> Characteristics (typical)



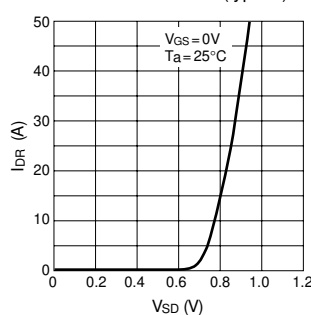
R<sub>DS(ON)</sub> - T<sub>c</sub> Characteristics (typical)



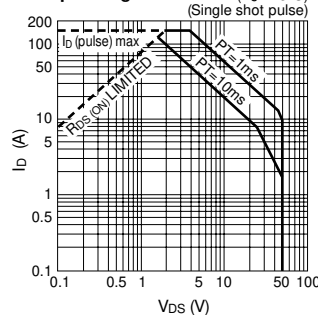
Capacitance - V<sub>DS</sub> Characteristics (typical)



I<sub>DR</sub> - V<sub>SD</sub> Characteristics (typical)



Safe Operating Area



P<sub>D</sub> - T<sub>a</sub> Characteristics

