

# 2SK1177

External dimensions 1.....FM20

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

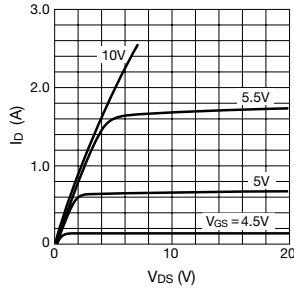
Symbol	Rated	Unit
V <sub>DSS</sub>	500	V
V <sub>GSS</sub>	±20	V
I <sub>D</sub>	±2.5	A
I <sub>D</sub> (pulse)	±10 (T <sub>ch</sub> ≤ 150°C)	A
P <sub>D</sub>	30 (T <sub>c</sub> = 25°C)	W
E <sub>AS</sub> *	200	mJ
T <sub>ch</sub>	150	°C
T <sub>stg</sub>	-55 to +150	°C

\*: V<sub>DD</sub> = 50V, L = 60mH, I<sub>L</sub> = 2.5A, unclamped, See Figure 1 on Page 5.

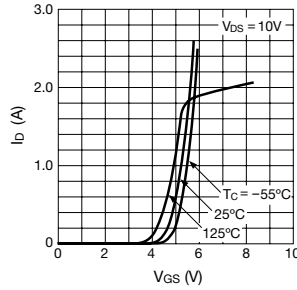
## Electrical Characteristics (Ta = 25°C)

Symbol	Rated			Unit	Conditions
	min	typ	max		
V <sub>(BR)</sub> DSS	500			V	I <sub>D</sub> = 250μA, V <sub>GS</sub> = 0V
I <sub>GSS</sub>			±500	nA	V <sub>GS</sub> = ±20V
I <sub>DSS</sub>			250	μA	V <sub>D</sub> = 500V, V <sub>GS</sub> = 0V
V <sub>TH</sub>	2.0		4.0	V	V <sub>D</sub> = 10V, I <sub>D</sub> = 250μA
Re (yfs)	1.5	2.3		S	V <sub>D</sub> = 10V, I <sub>D</sub> = 1.4A
R <sub>DS</sub> (on)		2.6	3.0	Ω	V <sub>GS</sub> = 10V, I <sub>D</sub> = 1.4A
C <sub>iss</sub>		350		pF	V <sub>D</sub> = 25V, f = 1.0MHz, V <sub>GS</sub> = 0V
C <sub>oss</sub>		54		pF	
t <sub>on</sub>		50		ns	I <sub>D</sub> = 1.4A, V <sub>DD</sub> = 250V, V <sub>GS</sub> = 10V, See Figure 2 on Page 5.
t <sub>off</sub>		140		ns	

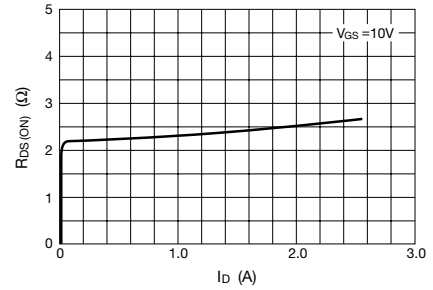
V<sub>D</sub> — I<sub>D</sub> Characteristics



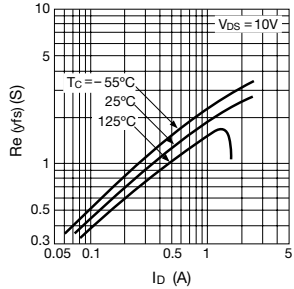
V<sub>GS</sub> — I<sub>D</sub> Characteristics



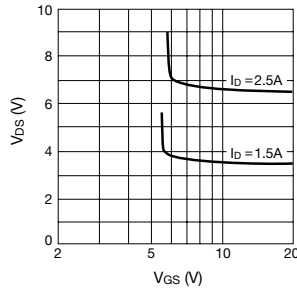
I<sub>D</sub> — R<sub>DS</sub> (ON) Characteristics



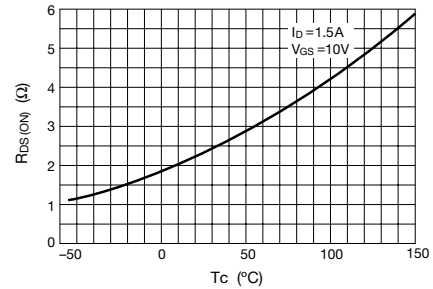
I<sub>D</sub> — Re (yfs) Characteristics



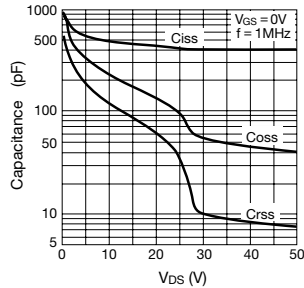
V<sub>GS</sub> — V<sub>DS</sub> Characteristics



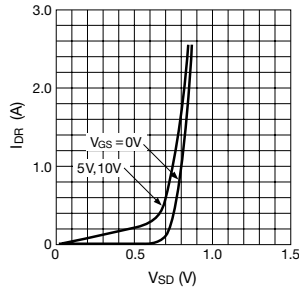
T<sub>c</sub> — R<sub>DS</sub> (ON) Characteristics



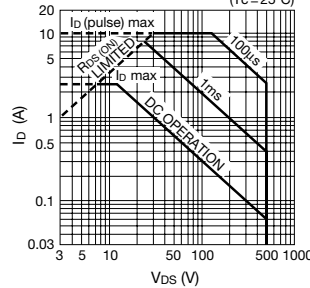
V<sub>D</sub> — Capacitance Characteristics



V<sub>SD</sub> — I<sub>DR</sub> Characteristics



Safe Operating Area (T<sub>c</sub> = 25°C)



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

