



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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# MOS FET 2SK3800

## Absolute Maximum Ratings (Ta=25°C)

Symbol	Ratings	Unit
V <sub>DSS</sub>	40	V
V <sub>GSS</sub>	±20	V
I <sub>D</sub>	±70	A
I <sub>D</sub> (pulse)*1	±140	A
P <sub>D</sub>	80 (Tc=25°C)	W
EAS*2	400	mJ
T <sub>ch</sub>	150	°C
T <sub>stg</sub>	-40 to +150	°C

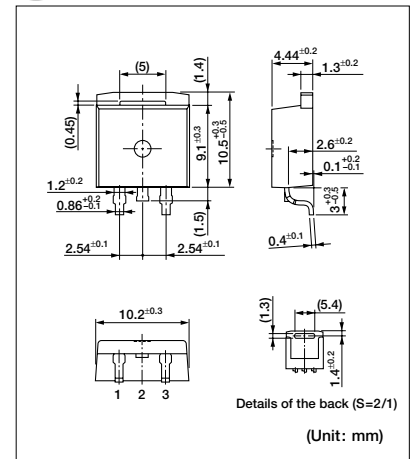
\*1: P<sub>w</sub> ≤ 100μs, duty cycle ≤ 1%

\*2: V<sub>DD</sub> = 20V, L = 1mH, I<sub>L</sub> = 20A, unclamped, R<sub>θ</sub> = 50Ω

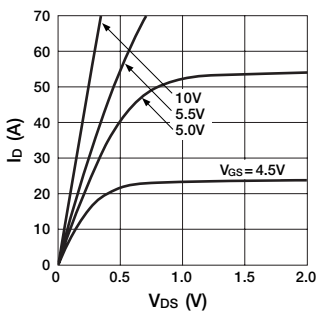
## Electrical Characteristics (Ta=25°C)

Symbol	Test Conditions	Ratings			Unit
		min	typ	max	
V <sub>(BR) DSS</sub>	I <sub>D</sub> = 100μA, V <sub>GS</sub> = 0V	40			V
I <sub>GSS</sub>	V <sub>GS</sub> = ±15V			±10	μA
I <sub>DSS</sub>	V <sub>DS</sub> = 40V, V <sub>GS</sub> = 0V			100	μA
V <sub>TH</sub>	V <sub>DS</sub> = 10V, I <sub>D</sub> = 1mA	2.0	3.0	4.0	V
R <sub>e</sub> (y/s)	V <sub>DS</sub> = 10V, I <sub>D</sub> = 35A	30	50		S
R <sub>DS (ON)</sub>	V <sub>GS</sub> = 10V, I <sub>D</sub> = 35A		5.0	6.0	mΩ
C <sub>iss</sub>	V <sub>DS</sub> = 10V		5100		pF
C <sub>oss</sub>	f = 1.0MHz		1200		pF
C <sub>rss</sub>	V <sub>GS</sub> = 0V		860		pF
t <sub>d (on)</sub>	I <sub>D</sub> = 35A		100		ns
t <sub>r</sub>	V <sub>DD</sub> = 20V, R <sub>G</sub> = 22Ω		100		ns
t <sub>d (off)</sub>	R <sub>L</sub> = 0.57Ω, V <sub>GS</sub> = 10V		300		ns
t <sub>f</sub>			130		ns
V <sub>SD</sub>	I <sub>SD</sub> = 50A, V <sub>GS</sub> = 0V		0.9	1.2	V
t <sub>rr</sub>	I <sub>SD</sub> = 25A, di/dt = 50A/μs		110		ns
R <sub>th</sub> (ch-c)				1.56	°C/W
R <sub>th</sub> (ch-a)				62.5	°C/W

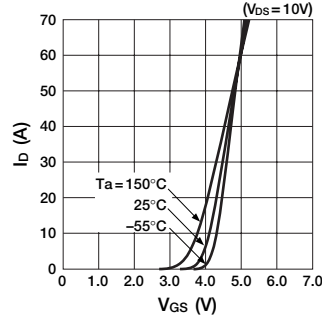
## External Dimensions TO220S



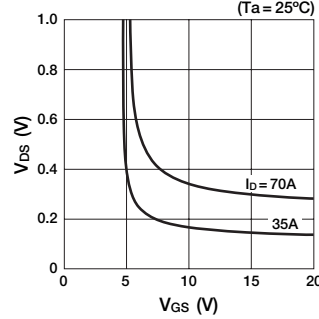
■ I<sub>D</sub> — V<sub>DS</sub> Characteristics (typ.)



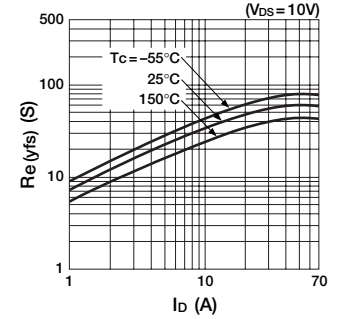
■ I<sub>D</sub> — V<sub>GS</sub> Characteristics (typ.)



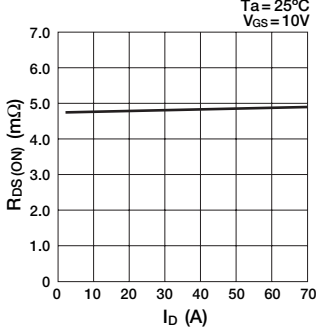
■ V<sub>DS</sub> — V<sub>GS</sub> Characteristics (typ.)



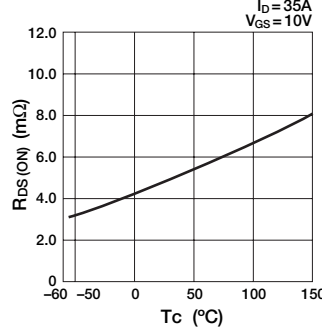
■ R<sub>e</sub> (y/s) — I<sub>D</sub> Characteristics (typ.)



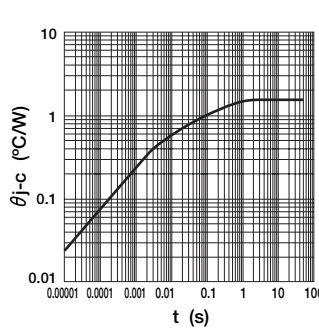
■ R<sub>DS (ON)</sub> — I<sub>D</sub> Characteristics (typ.)



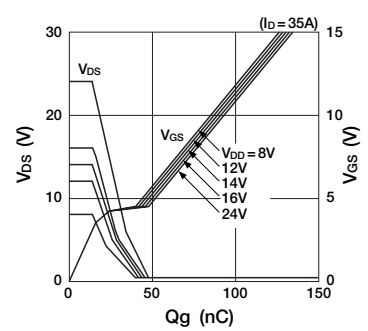
■ R<sub>DS (ON)</sub> — T<sub>C</sub> Characteristics (typ.)



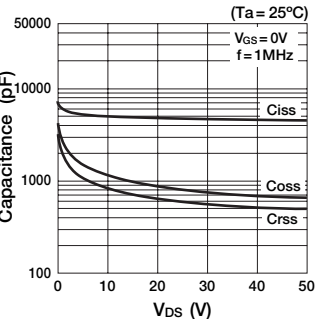
■ θ<sub>j-c</sub> — t Characteristics (Single pulse)



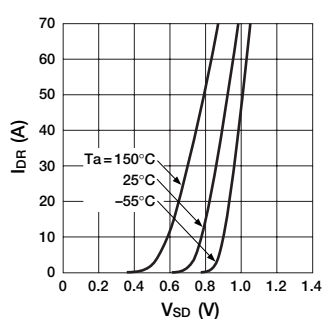
■ Dynamic I/O Characteristics (typ.)



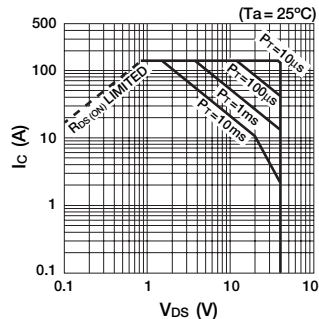
■ Capacitance — V<sub>DS</sub> Characteristics (typ.)



■ I<sub>DR</sub> — V<sub>SD</sub> Characteristics (typ.)



■ Safe Operating Area (single pulse)



■ P<sub>D</sub> — T<sub>C</sub> Characteristics

