

MOS FET 2SK3800

Absolute Maximum Ratings (Ta=25°C)

Symbol	Rated	Unit
V _{DSS}	40	V
V _{GSS}	±20	V
I _D	±70	A
I _{D (pulse)*1}	±140	A
P _D	80 (Tc=25°C)	W
EAS*2	400	mJ
T _{ch}	150	°C
T _{stg}	-40 to +150	°C

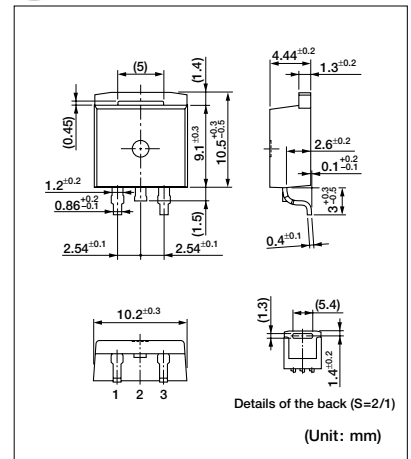
*1: P_w ≤ 100μs, duty cycle ≤ 1%

*2: V_{DD} = 20V, L = 1mH, I_L = 20A, unclamped, R_θ = 50Ω

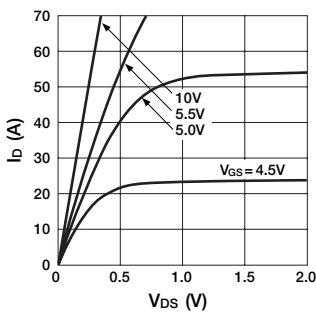
Electrical Characteristics (Ta=25°C)

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

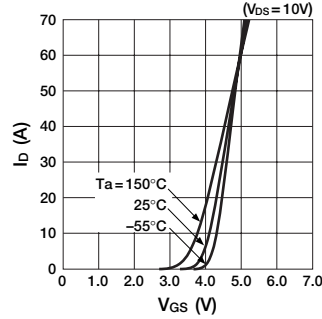
External Dimensions TO220S



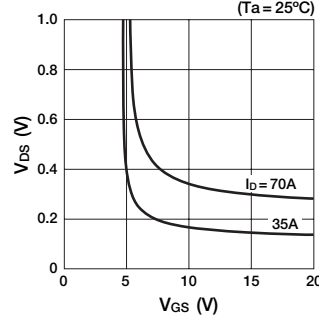
■ I_D—V_{DS} Characteristics (typ.)



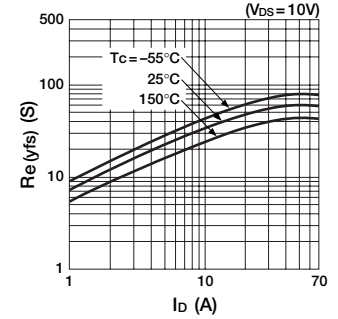
■ I_D—V_{GS} Characteristics (typ.)



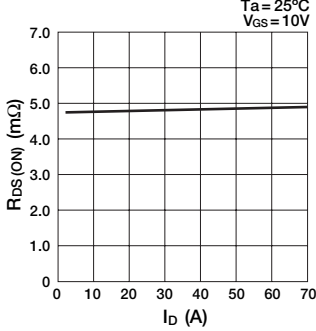
■ V_{DS}—V_{GS} Characteristics (typ.)



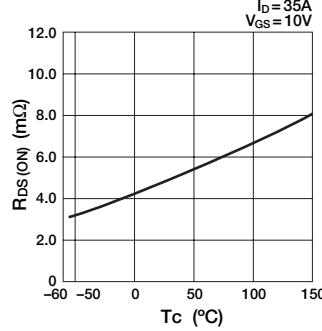
■ R_{e (y/s)}—I_D Characteristics (typ.)



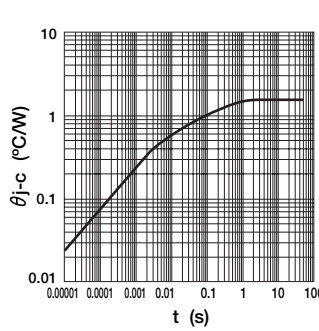
■ R_{DS (ON)}—I_D Characteristics (typ.)



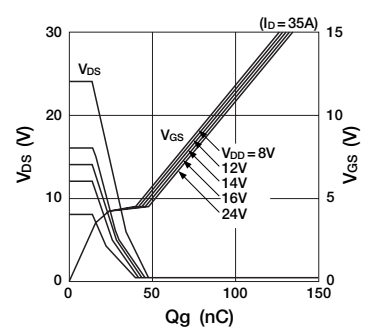
■ R_{DS (ON)}—T_C Characteristics (typ.)



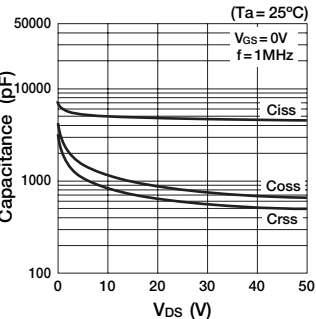
■ θ_{j-c}—t Characteristics (Single pulse)



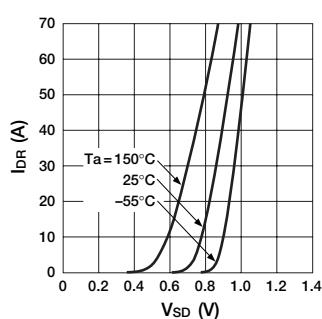
■ Dynamic I/O Characteristics (typ.)



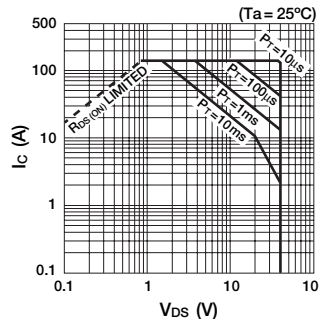
■ Capacitance—V_{DS} Characteristics (typ.)



■ I_{DR}—V_{SD} Characteristics (typ.)



■ Safe Operating Area (single pulse)



■ P_D—T_C Characteristics

