SLA5068

N-channel
5-phase motor drive

External dimensions Ⓐ ··· SLA (15-pin)

Absolute maximum ratings (Ta=25°C)

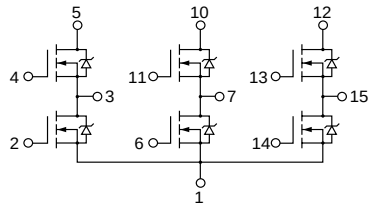
Symbol	Ratings	Unit
V_{DSS}	60	V
V_{GSS}	±20	V
I_D	7	A
$I_{D(pulse)}$	15 (PW≤100μs, Du≤1%)	A
E_{AS}*	60	mJ
I_{AS}	7	A
P_T	5 (Ta=25°C, with all circuits operating, without heatsink)	W
	50 (Tc=25°C,with all circuits operating, with infinite heatsink)	
θj-a	25 (Junction-Air, Ta=25°C, with all circuits operating)	°C/W
θj-c	2.5 (Junction-Case, Tc=25°C, with all circuits operating)	°C/W
V_{ISO}	1000 (Between fin and lead pin, AC)	Vrms
Tch	150	°C
Tstg	–40 to +150	°C

* : V_{DD}=20V, L=20mH, I_D=2A, unclamped, R_G=50Ω, see Fig. E on page 15.

Electrical characteristics (Ta=25°C)

Symbol	Specification min	typ	max	Unit	Conditions
$V_{(BR)DSS}$	60			V	I_D=100μA, V_{GS}=0V
I_{GSS}			±100	nA	V_{GS}=±20V
I_{DSS}			100	μA	V_{DS}=60V, V_{GS}=0V
V_{TH}	1.0		2.0	V	V_{DS}=10V, I_D=250μA
$Re_{(yfs)}$	6			S	V_{DS}=10V, I_D=3.5A
$R_{DS(ON)}$			0.1	Ω	V_{GS}=10V, I_D=3.5A
Ciss		660		pF	V_{DS}=10V,
Coss		310		pF	f=1.0MHz,
Crss		75		pF	V_{GS}=0V
$td_{(on)}$		30		ns	I_D=3.5A,
tr		90		ns	V_{DD}≒20V,
$td_{(off)}$		140		ns	R_L=5.7Ω, V_{GS}=5V,
tf		65		ns	see Fig. 3 on page 16.
V_{SD}		1.1		V	I_{SD}=7A, V_{GS}=0V
trr		80		ns	I_{SD}=3.5A, di/dt=100A/μA

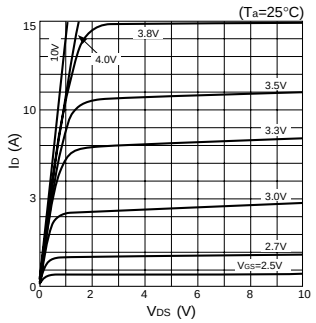
■Equivalent circuit diagram



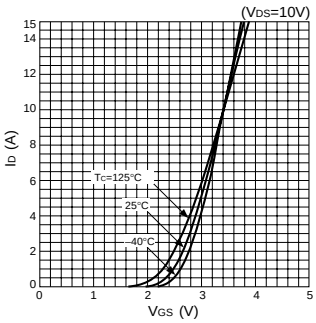
Pins 8, 9 : NC

Characteristic curves

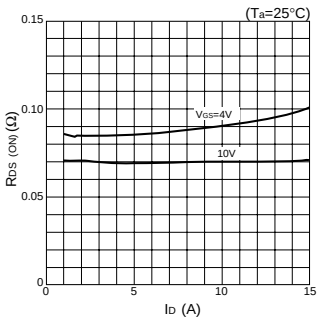
I_D-V_{DS} Characteristics (Typical)



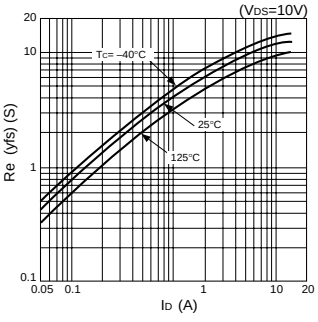
I_D-V_{GS} Characteristics (Typical)



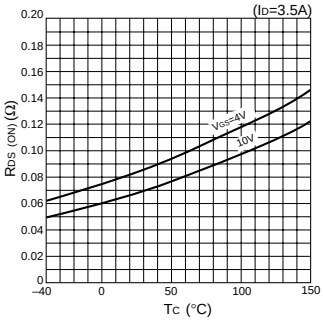
$R_{DS(ON)}$-I_D Characteristics (Typical)



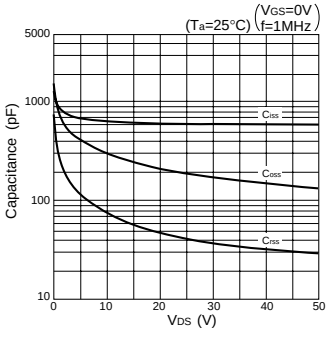
$Re_{(yfs)}$-I_D Characteristics (Typical)



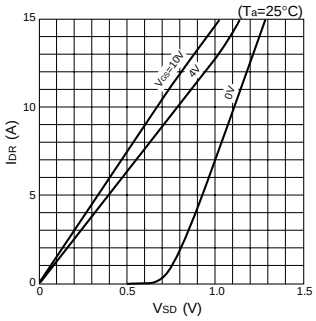
$R_{DS(ON)}$-T_C Characteristics (Typical)



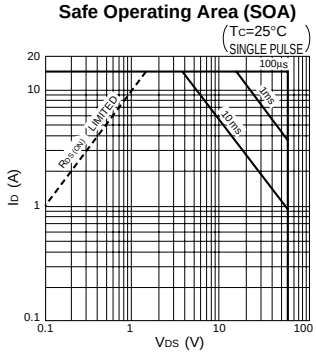
Capacitance-V_{DS} Characteristics (Typical)



I_{DR}-V_{SD} Characteristics (Typical)



Safe Operating Area (SOA)



P_T-T_a Characteristics

