SLA5079

P-channel
3-phase motor drive

External dimensions Ⓐ ··· SLA (12-pin)

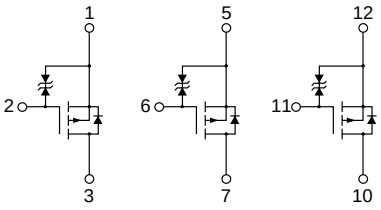
Absolute maximum ratings (Ta=25°C)

Symbol	Ratings	Unit
V_{DSS}	–60	V
V_{GSS}	±20	V
I_D	–10	A
$I_{D(pulse)}$	–15 (PW≤1ms, duty≤25%)	A
P_T	4.5 (Ta=25°C, with all circuits operating, without heatsink)	W
	30 (Tc=25°C,with all circuits operating, with infinite heatsink)	
θj-a	27.8 (Junction-Air, Ta=25°C, with all circuits operating)	°C/W
θj-c	4.17 (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

Electrical characteristics (Ta=25°C)

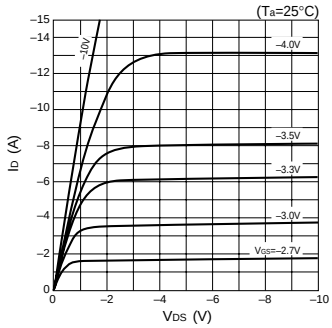
Symbol	Specification			Unit	Conditions
	min	typ	max		
$V_{(BR)DSS}$	–60			V	I_D=–100μA, V_{GS}=0V
I_{GSS}			±10	nA	V_{GS}=±20V
I_{DSS}			–100	μA	V_{DS}=–60V, V_{GS}=0V
V_{TH}	–1.0		–2.0	V	V_{DS}=–10V, I_D=–250μA
Re(yfs)		8.7		S	V_{DS}=–10V, I_D=–5A
$R_{DS(ON)}$			0.14	Ω	V_{GS}=–10V, I_D=–5A
Ciss		1200		pF	V_{DS}=–10V,
Coss		440		pF	f=1.0MHz,
Crss		120		pF	V_{GS}=0V
td(on)		50		ns	I_D=–5A, V_{DD}≒–20V,
tr		170		ns	R_L=4Ω, V_{GS}=–5V,
td(off)		180		ns	R_G=50Ω,
tf		100		ns	see Fig. 4 on page 16.
V_{SD}		–1.25		V	I_{SD}=–10A, V_{GS}=0V
trr		100		ns	I_{SD}=–5A, di/dt=100A/μs

■Equivalent circuit diagram

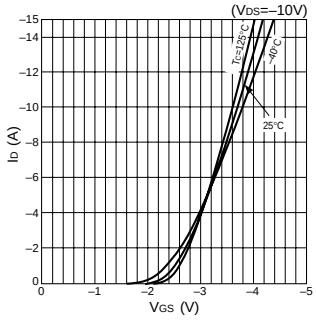


Characteristic curves

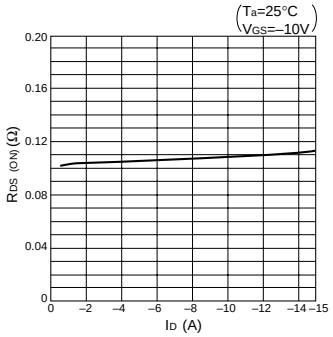
I_D-V_{DS} Characteristics (Typical)



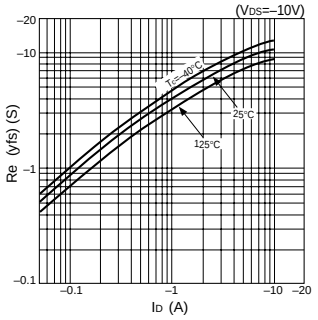
I_D-V_{GS} Characteristics (Typical)



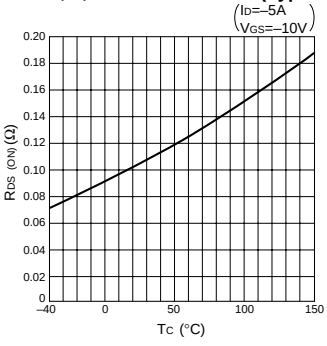
$R_{DS(ON)}$-I_D Characteristics (Typical)



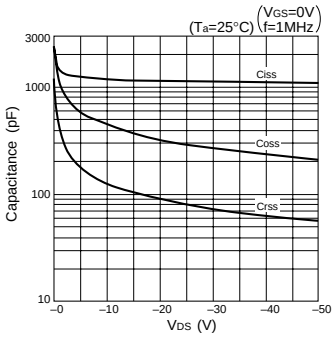
Re(yfs)-I_D Characteristics (Typical)



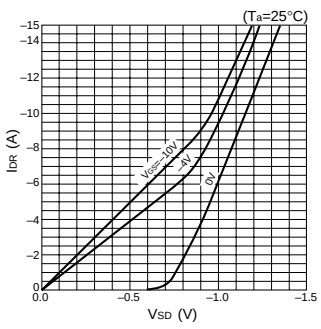
$R_{DS(ON)}$-T_C Characteristics (Typical)



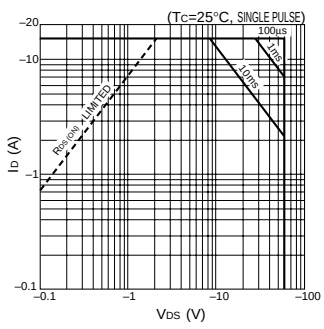
Capacitance-V_{DS} Characteristics (Typical)



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



Safe Operating Area (SOA)



P_T-T_a Characteristics