SLA5006

P-channel
With built-in flywheel diode

External dimensions Ⓐ ··· SLA

Absolute maximum ratings (Ta=25°C)

Symbol	Ratings	Unit
V_{DSS}	–100	V
V_{GSS}	∓20	V
I_D	∓5	A
$I_{D(pulse)}$	∓10(PW≤1ms)	A
I_F	5(PW≤0.5ms, Du≤25%)	A
I_{FSM}	10(PW≤10ms, Single pulse)	A
V_R	120	V
P_T	5 (Ta=25°C, with all circuits operating, without heatsink)	W
	35 (Tc=25°C,with all circuits operating, with infinite heatsink)	W
θj-a	25 (Junction-Air, Ta=25°C, with all circuits operating)	°C/W
θj-c	3.57 (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

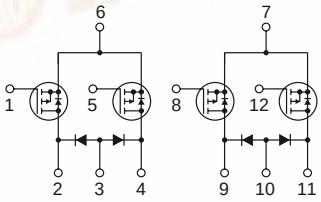
Electrical characteristics (Ta=25°C)

Symbol	Specification min	typ	max	Unit	Condition
$V_{(BR)DSS}$	–100			V	I_D=–250μA, V_{GS}=0V
I_{GSS}			∓500	nA	V_{GS}=∓20V
I_{DSS}			–250	μA	V_{DS}=–100V, V_{GS}=0V
V_{TH}	–2.0		–4.0	V	V_{DS}=–10V, I_D=–250μA
Re(yfs)	0.9	2.0		S	V_{DS}=–10V, I_D=–5A
$R_{DS(ON)}$		0.55	0.7	Ω	V_{GS}=–10V, I_D=–5A
Ciss		300		pF	V_{DS}=–25V, f=1.0MHz,
Coss		200		pF	V_{GS}=0V
ton		150		ns	I_D=–5A, V_{DD}≒–50V, V_{GS}=–10V,
toff		200		ns	see Fig. 4 on page 16.
V_{SD}		–4.5	–5.5	V	I_{SD}=–5A, V_{GS}=0V
trr		220		ns	I_{SD}= ∓100mA

●Diode for flyback voltage absorption

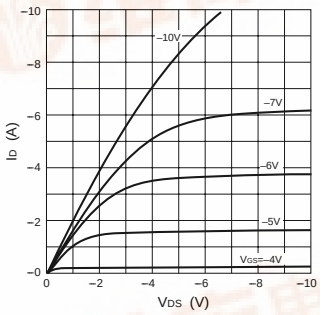
Symbol	Specification min	typ	max	Unit	Condition
V_R	120			V	I_R=10μA
V_F		1.0	1.2	V	I_F=1A
I_R			10	μA	V_R=120V
trr		100		ns	I_F= ∓100mA

■Equivalent circuit diagram

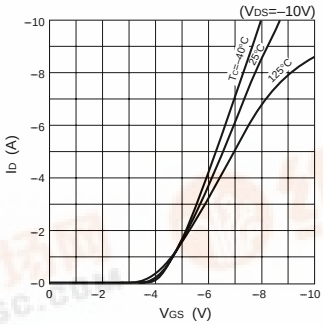


Characteristic curves

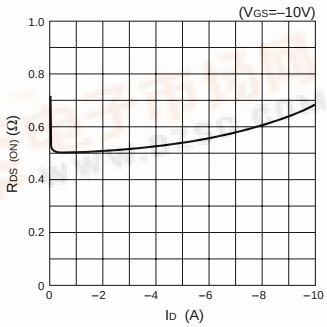
I_D-V_{DS} Characteristics (Typical)



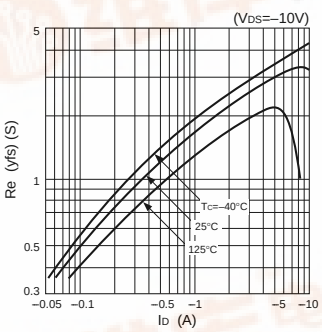
I_D-V_{GS} Characteristics (Typical)



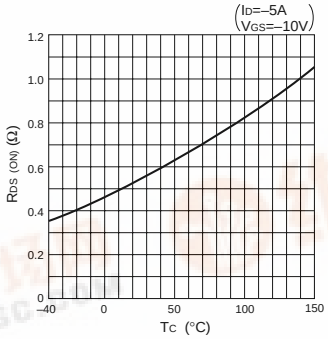
$R_{DS(ON)}$-I_D Characteristics (Typical)



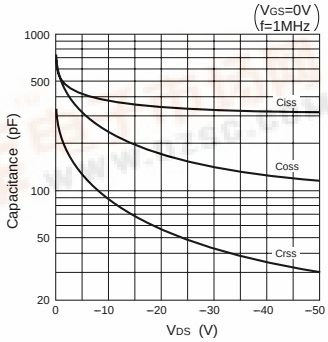
Re(yfs)-I_D Characteristics (Typical)



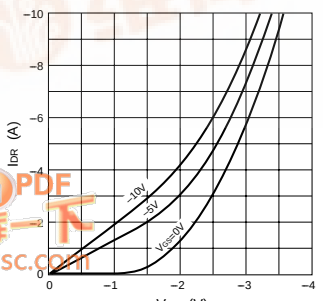
$R_{DS(ON)}$-T_C Characteristics (Typical)



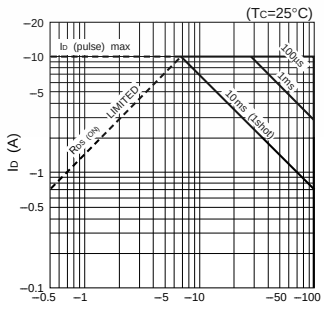
Capacitance-V_{DS} Characteristics (Typical)



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



Safe Operating Area (SOA)



P_T-T_a Characteristics