

SLA5058

N-channel
General purpose

External dimensions A ... SLA

Absolute maximum ratings

(Ta=25°C)

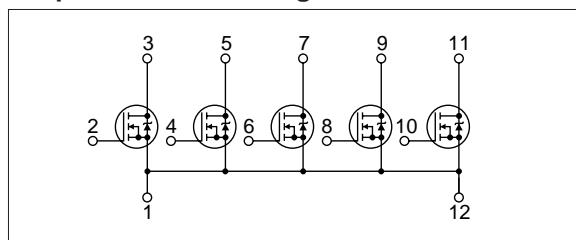
Symbol	Ratings	Unit
V _{DSS}	150	V
V _{GSS}	+20, -10	V
I _D	±7A	
I _D (pulse)	±15 (PV≤1ms, duty≤1%)	A
E _{AS} *	100	mJ
P _T	5 (Ta=25°C, with all circuits operating, without heatsink) 35 (T _c =25°C, with all circuits operating, with infinite heatsink)	W
θ _{j-a}	25 (Junction-Air, Ta=25°C, with all circuits operating)	°C/W
θ _{j-c}	3.57 (Junction-Case, T _c =25°C, with all circuits operating)	°C/W
V _{ISO}	1000 (Between fin and lead pin, AC)	Vrms
T _{ch}	150	°C
T _{tsg}	-40 to +150	°C

* : V_{DD}=25V, L=3.4mH, I_D=7A, unclamped, R_G=50Ω

Electrical characteristics

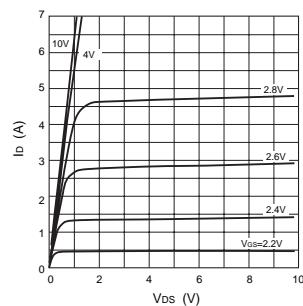
Symbol	Specification			Unit	Conditions
	min	typ	max		
V _{(BR)DSS}	150			V	I _D =100μA, V _{GS} =0V
I _{GSS}			100	nA	V _{GS} =20V
I _{DSS}			100	μA	V _{DS} =150V, V _{GS} =0V
V _{TH}	1.0		2.0	V	V _{DS} =10V, I _D =250μA
R _{e(yfs)}	4	9		S	V _{DS} =10V, I _D =3.5A
R _{D(on)}		150	200	mΩ	V _{GS} =10V, I _D =3.5A
		170	230	mΩ	V _{GS} =4V, I _D =3.5A
C _{iss}	870			pF	V _{DS} =10V
C _{oss}	320			pF	f=1.0MHz
C _{rss}	210			pF	V _{GS} =0V
t _{d(on)}	25			ns	I _D =3.5A
t _r	55			ns	V _{DD} =70V
t _{d(off)}	80			ns	R _L =20Ω
t _f	50			ns	V _{GS} =5V
V _{SD}		1.0	1.5	V	I _D =7A, V _{GS} =0V
t _{rr}		500		ns	I _F =±100mA

■ Equivalent circuit diagram

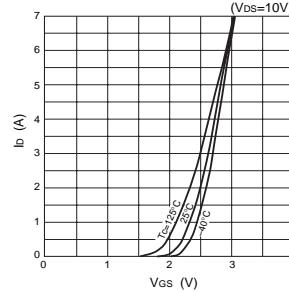


Characteristic curves

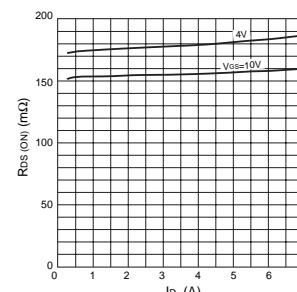
I_D-V_{DS} Characteristics (Typical)



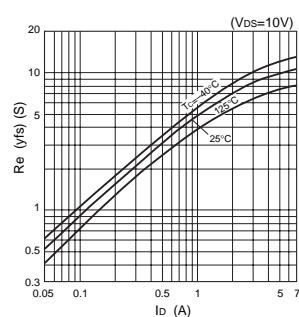
I_D-V_{GS} Characteristics (Typical)



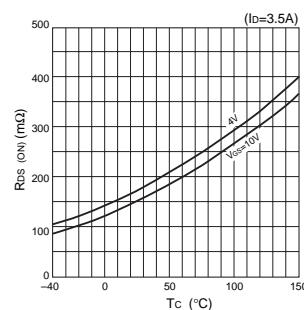
R_{D(on)}-I_D Characteristics (Typical)



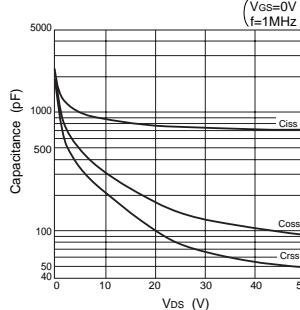
R_e(yfs)-I_D Characteristics (Typical)



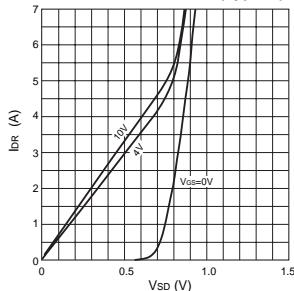
R_{D(on)}-T_c Characteristics (Typical)



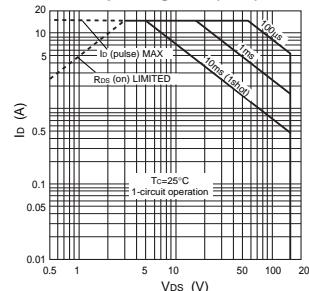
Capacitance-V_{DS} Characteristics (Typical)



I_D-V_{SD} Characteristics (Typical)



Safe Operating Area (SOA)



P_T-T_a Characteristics

