

Absolute maximum ratings

(Ta=25°C)

Symbol	Ratings	Unit
V _{DSS}	100	V
V _{GSS}	±20	V
I _D	±10	A
I _{D(pulse)}	±40 (PW≤1ms)	A
E _{AS} *	200	mJ
P _T	5 (Ta=25°C, with all circuits operating, without heatsink)	W
	40 (Tc=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}	3.13 (Junction-Case, Tc=25°C, with all circuits operating)	°C/W
V _{ISO}	1000 (Between fin and lead pin, AC)	Vrms
T _{ch}	150	°C
T _{stg}	-40 to +150	°C

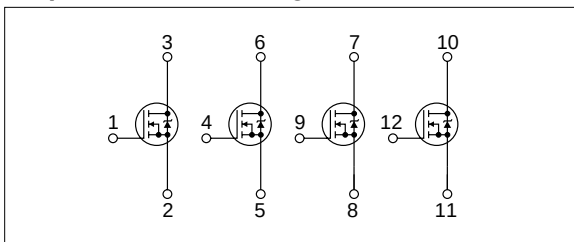
* : V_{DD}=25V, L=3mH, I_D=10A, unclamped, R_G=50Ω, see Fig. E on page 15.

Electrical characteristics

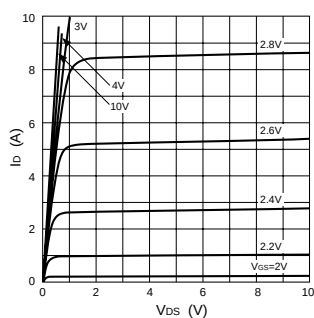
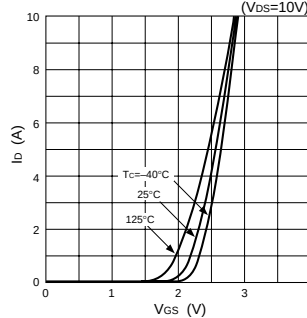
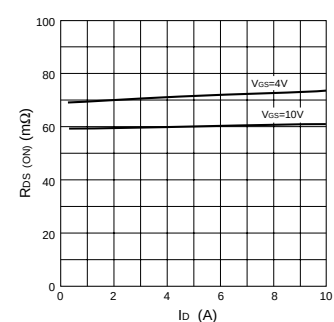
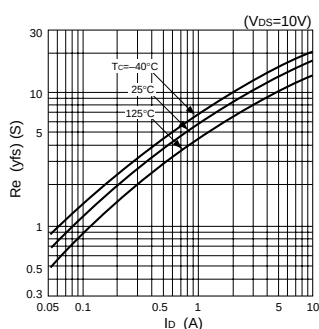
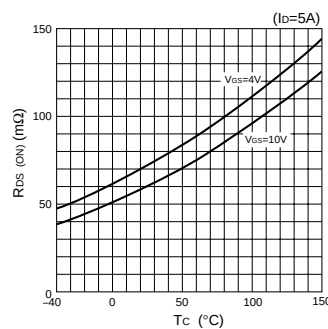
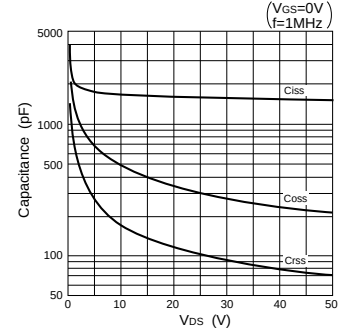
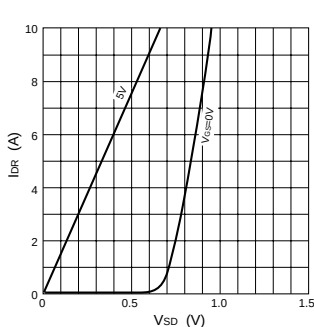
(Ta=25°C)

Symbol	Specifications			Unit	Conditions
	min	typ	max		
V _{(BR)DSS}	100			V	I _D =100μA, V _{GS} =0V
I _{GSS}			±100	nA	V _{GS} =±20V
I _{DSS}			100	μA	V _{DS} =100V, V _{GS} =0V
V _{TH}	1.0		2.0	V	V _{DS} =10V, I _D =250μA
R _{e(yf)}	8	13		S	V _{DS} =10V, I _D =5A
R _{DS(ON)}		60	80	mΩ	V _{GS} =10V, I _D =5A
		75	95	mΩ	V _{GS} =4V, I _D =5A
C _{iss}		1630		pF	V _{DS} =10V, f=1.0MHz, V _{GS} =0V
C _{oss}		480		pF	
t _{D(on)}		30		ns	I _D =5A, V _{DD} ≅50V, R _L =10Ω, V _{GS} =5V, see Fig. 3 on page 16.
t _r		45		ns	
t _{D(off)}		100		ns	
t _f		40		ns	
V _{SD}		1.1	1.5	V	
t _{rr}		300		ns	I _{SD} =±100mA

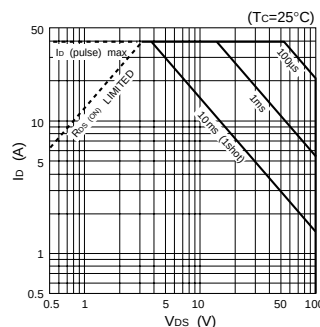
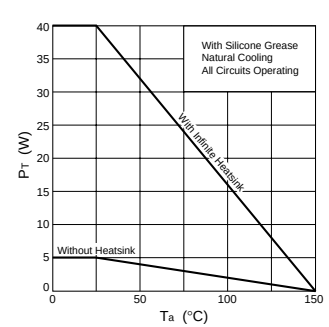
Equivalent circuit diagram



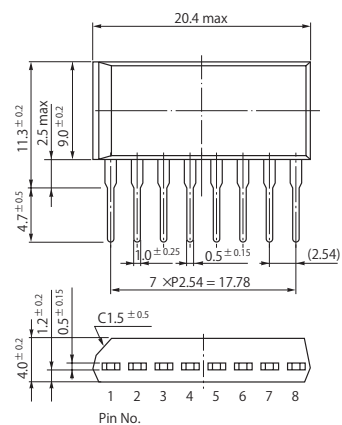
Characteristic curves

I_D-V_{DS} Characteristics (Typical)I_D-V_{GS} Characteristics (Typical)R_{DS(ON)}-I_D Characteristics (Typical)R_{e(yf)}-I_D Characteristics (Typical)R_{DS(ON)}-T_C Characteristics (Typical)Capacitance-V_{DS} Characteristics (Typical)I_{DR}-V_{SD} Characteristics (Typical)

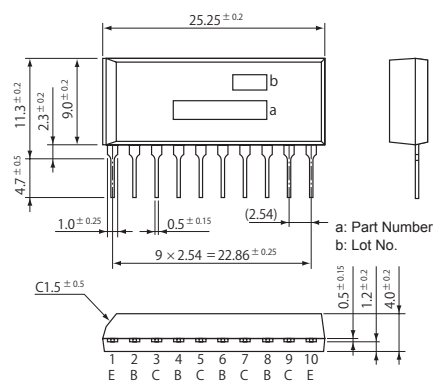
Safe Operating Area (SOA)

P_T-T_a Characteristics

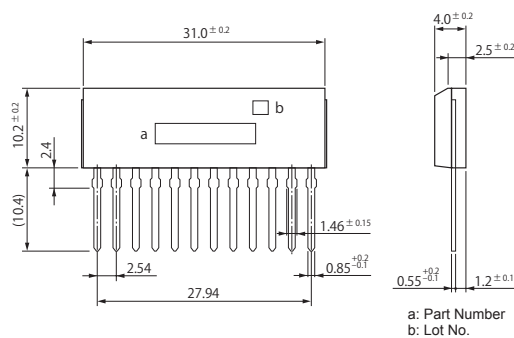
• SIP 8 (STA8Pin)



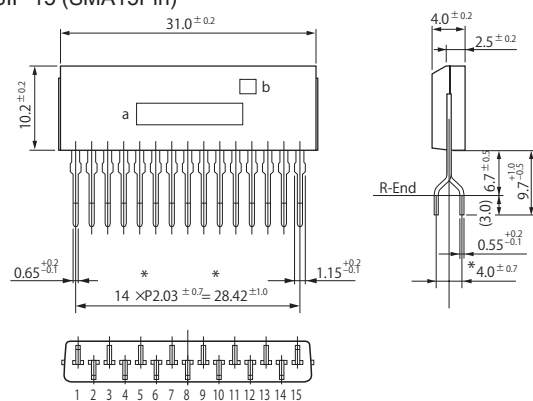
• SIP 10 (STA10Pin)



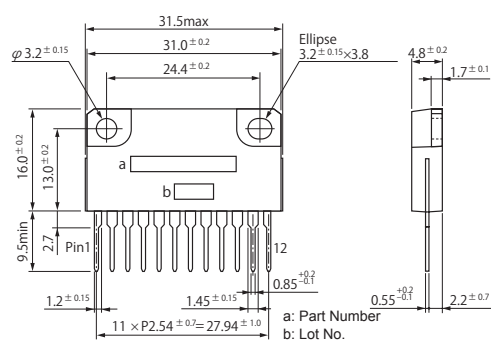
• SIP 12 (SMA12Pin)



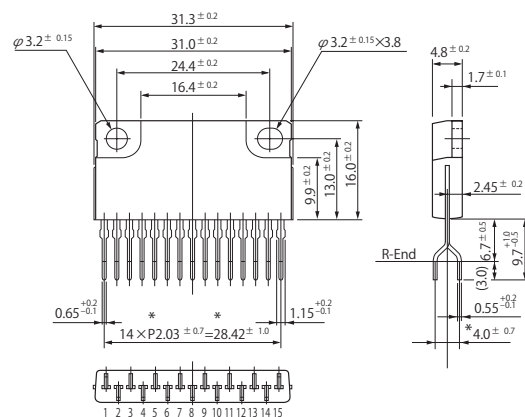
• SIP 15 (SMA15Pin)



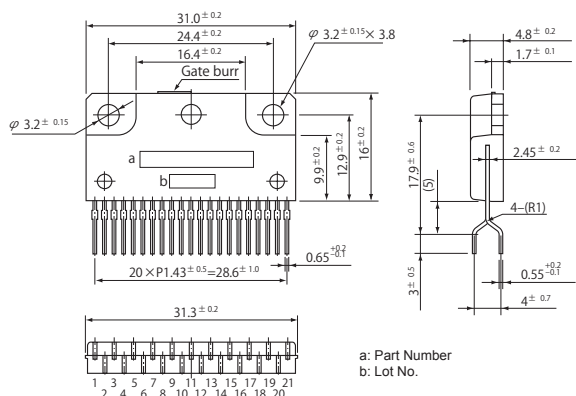
• SIP 12 with Fin (SLA12Pin)



• SIP 15 with Fin (SLA15Pin)



• SIP 21 with Fin (SLA21Pin)



(Unit:mm)