

Absolute maximum ratings

(Ta=25°C)

Symbol	Ratings	Unit
V_{DS}	500	V
V_{GS}	±30	V
I_D	±5	A
$I_D(\text{pulse})$	±10 (PW≤1ms, Du≤1%)	A
E_{AS}^*	45	mJ
P_T	5 (Ta=25°C, with all circuits operating, without heatsink)	W
	60 (Tc=25°C, with all circuits operating, with infinite heatsink)	
θ_{JA}	25 (Junction-Air, Ta=25°C, with all circuits operating)	°C/W
θ_{JC}	2.08 (Junction-Case, Tc=25°C, with all circuits operating)	°C/W
T_{ch}	150	°C
T_{stg}	-40 to +150	°C

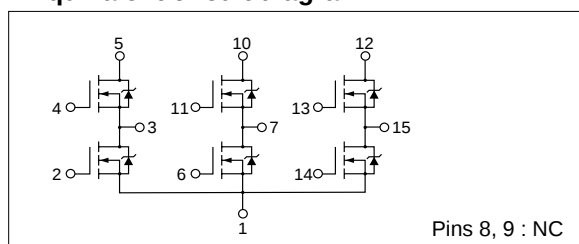
* : $V_{DD}=30V$, $L=3.4mH$, $I_D=5A$, unclamped, $R_G=50\Omega$, see Fig. E on page 15.

Electrical characteristics

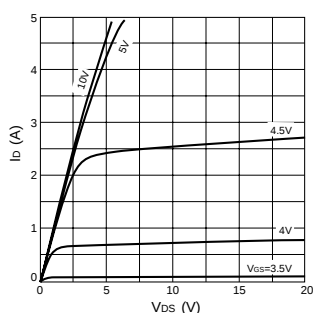
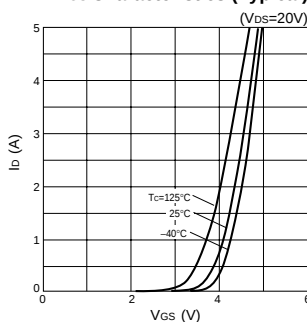
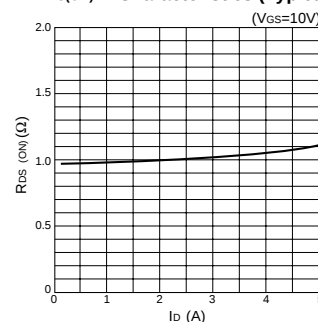
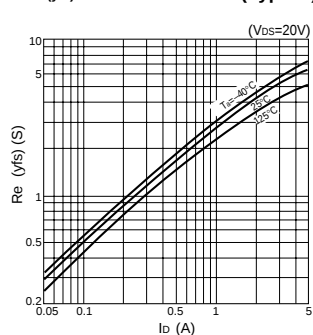
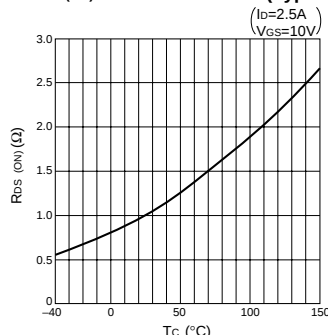
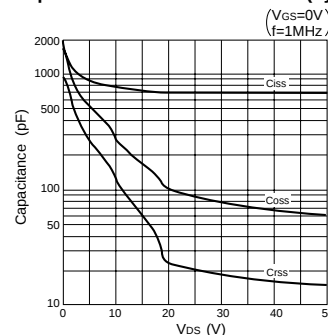
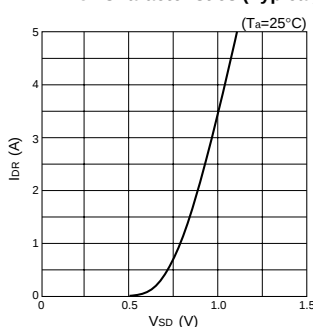
(Ta=25°C)

Symbol	Specification			Unit	Conditions
	min	typ	max		
$V_{(BR)DSS}$	500			V	$I_D=100\mu A$, $V_{GS}=0V$
I_{GSS}			±100	nA	$V_{GS}=\pm 30V$
I_{DSS}			100	μA	$V_{DS}=500V$, $V_{GS}=0V$
V_{TH}	2.0		4.0	V	$V_{DS}=10V$, $I_D=1mA$
$R_{e(yfs)}$	2.4	4.0		S	$V_{DS}=10V$, $I_D=2.5A$
$R_{DS(ON)}$		1.05	1.4	Ω	$V_{GS}=10V$, $I_D=2.5A$
C_{iss}		770		pF	$V_{DS}=10V$, $f=1.0MHz$, $V_{GS}=0V$
C_{oss}		290		pF	$V_{GS}=0V$
$t_{d(on)}$		20		ns	$I_D=2.5A$, $V_{DD}\div 200V$, $R_L=80\Omega$, $V_{GS}=10V$, see Fig. 3 on page 16.
t_r		25		ns	
$t_{d(off)}$		70		ns	
t_f		65		ns	
V_{SD}		1.1	1.5	V	
t_{rr}		75		ns	$I_{SD}=2.5A$, $di/dt=100A/\mu s$

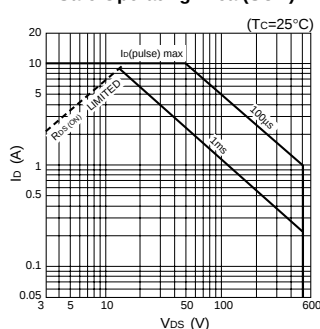
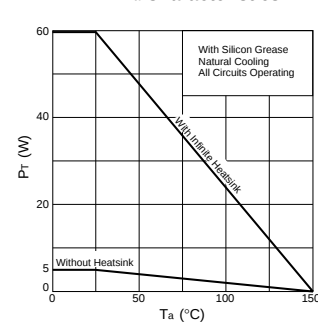
Equivalent circuit diagram



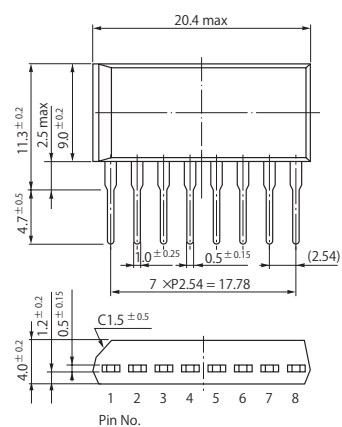
Characteristic curves

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

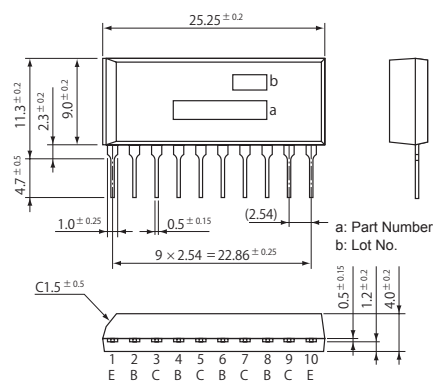
Safe Operating Area (SOA)

 P_T - T_A Characteristics

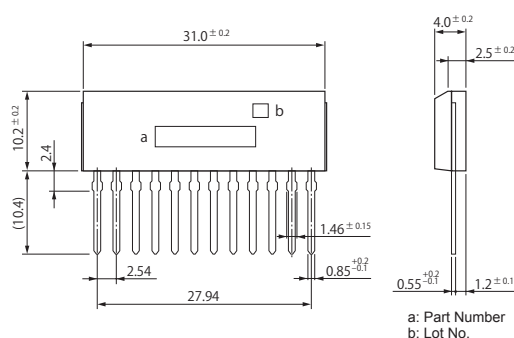
• SIP 8 (STA8Pin)



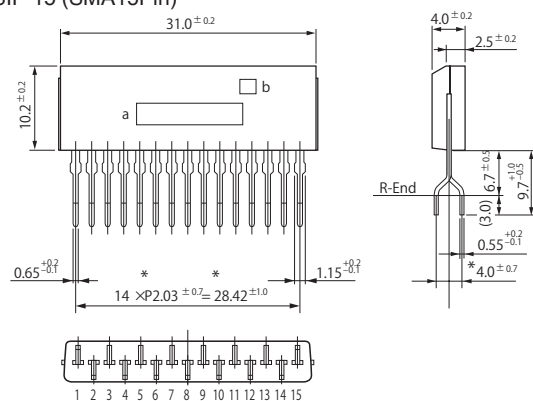
• SIP 10 (STA10Pin)



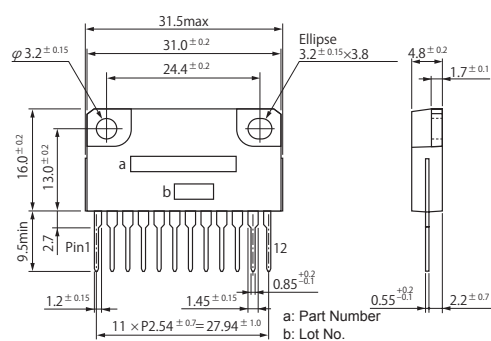
• SIP 12 (SMA12Pin)



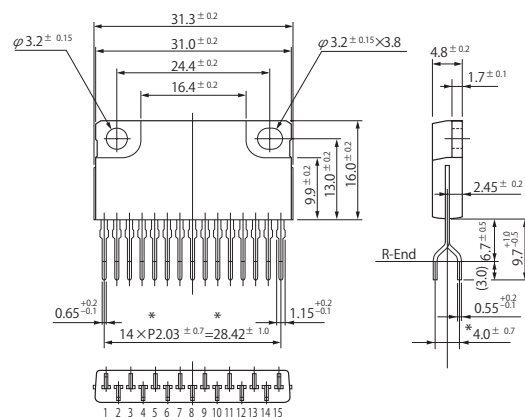
• SIP 15 (SMA15Pin)



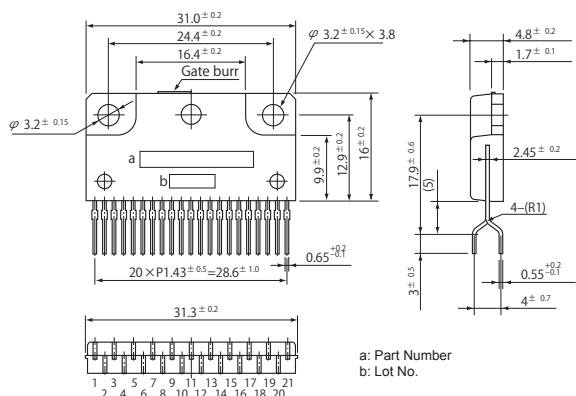
• SIP 12 with Fin (SLA12Pin)



• SIP 15 with Fin (SLA15Pin)



• SIP 21 with Fin (SLA21Pin)



(Unit:mm)