

Absolute maximum ratings

(Ta=25°C)

Symbol	Ratings	Unit
V _{DSS}	250	V
V _{GSS}	±20	V
I _D	±7	A
I _D (pulse)	±15 (PW≤1ms, Du≤1%)	A
E _{AS} *	120	mJ
P _T	4 (Ta=25°C, with all circuits operating, without heatsink)	W
	35 (Tc=25°C, with all circuits operating, with infinite heatsink)	W
θ _{j-a}	31.2 (Junction-Air, Ta=25°C, with all circuits operating)	°C/W
θ _{j-c}	3.57 (Junction-Case, Tc=25°C, with all circuits operating)	°C/W
T _{ch}	150	°C
T _{stg}	-40 to +150	°C

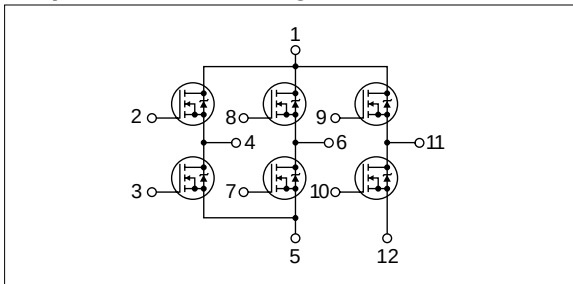
* : V_{DD}=25V, L=4.4mH, I_D=7A, unclamped, R_G=50Ω, see Fig. E on page 15.

Electrical characteristics

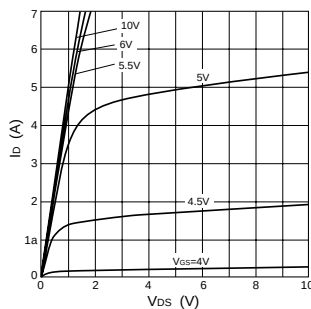
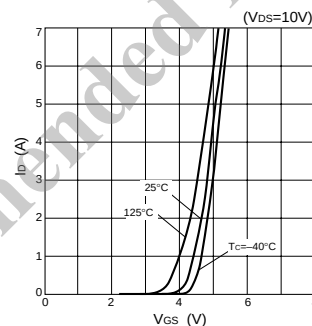
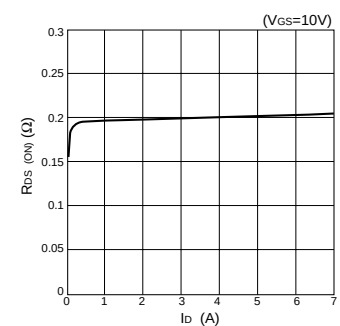
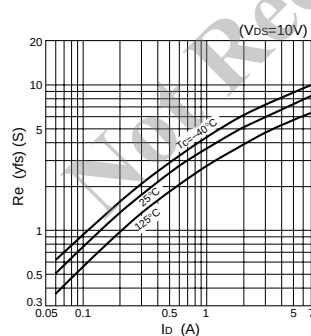
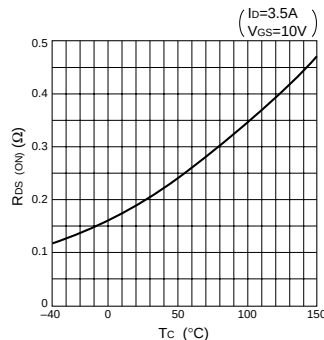
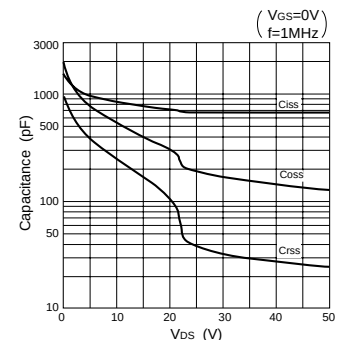
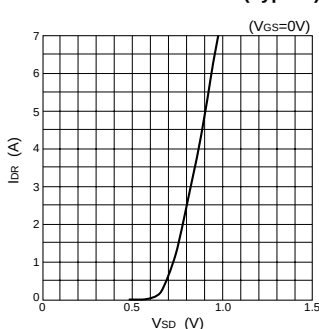
(Ta=25°C)

Symbol	Specification			Unit	Conditions
	min	typ	max		
V _{(BR)DSS}	250			V	I _D =100μA, V _{GS} =0V
I _{GSS}			±100	nA	V _{GS} =±20V
I _{DSS}			100	μA	V _{DS} =250V, V _{GS} =0V
V _{TH}	2.0		4.0	V	V _{DS} =10V, I _D =1mA
Re(yfs)	4.5	6.5		S	V _{DS} =10V, I _D =3.5A
R _{DS(ON)}		0.2	0.25	Ω	V _{GS} =10V, I _D =3.5A
C _{iss}		850		pF	V _{DS} =10V, f=1.0MHz, V _{GS} =0V
C _{oss}		550		pF	
C _{rss}		250		pF	
td(on)		20		ns	I _D =3.5A, V _{DD} ≐100V, R _L =28.6Ω, V _{GS} =10V, see Fig. 3 on page 16.
tr		25		ns	
td(off)		90		ns	
tf		70		ns	
V _{SD}	1.1	1.5		V	I _{SD} =7A, V _{GS} =0V
trr		85		ns	I _{SD} =3.5A, V _{GS} =0V, di/dt=100A/μs

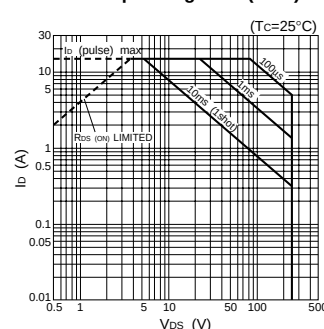
Equivalent circuit diagram



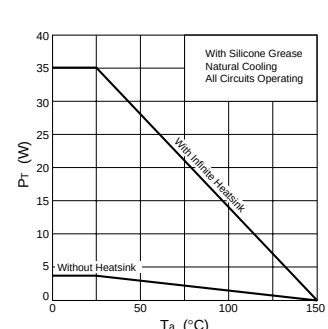
Characteristic curves

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)

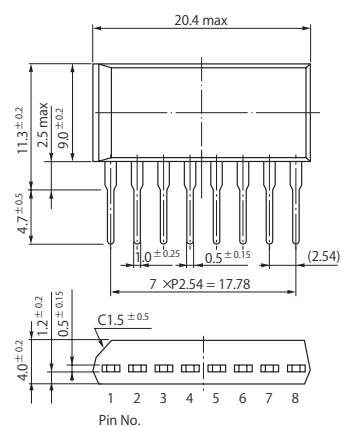
Safe Operating Area (SOA)



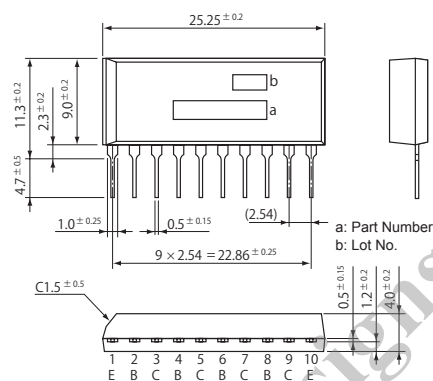
Pr-Ta Characteristics



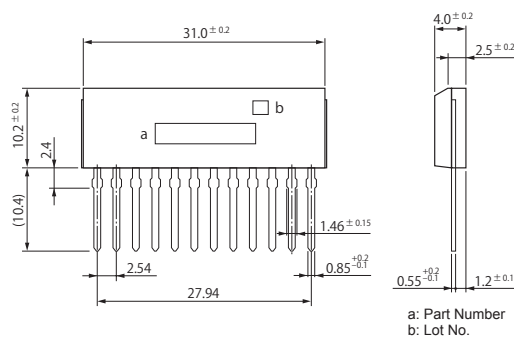
• SIP 8 (STA8Pin)



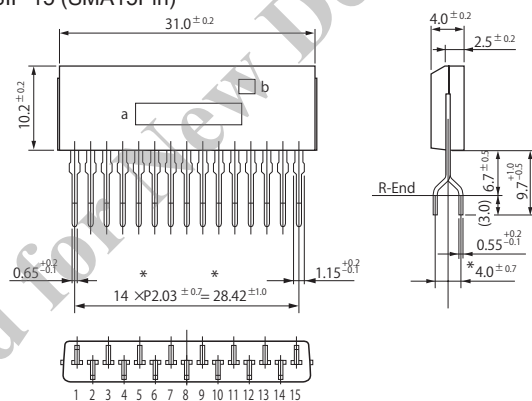
• SIP 10 (STA10Pin)



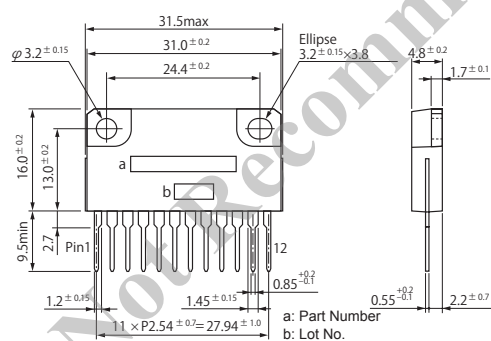
• SIP 12 (SMA12Pin)



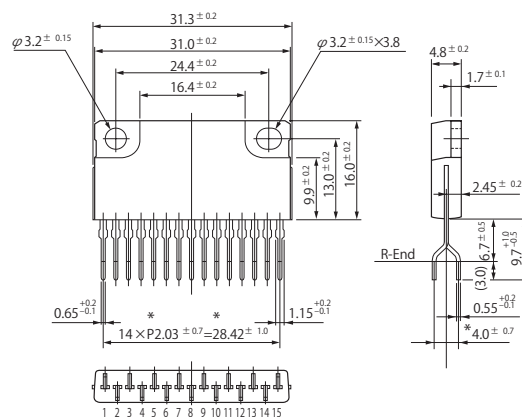
• SIP 15 (SMA15Pin)



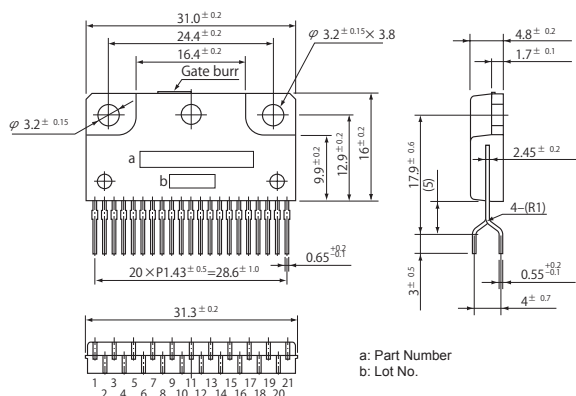
• SIP 12 with Fin (SLA12Pin)



• SIP 15 with Fin (SLA15Pin)



• SIP 21 with Fin (SLA21Pin)



(Unit:mm)