

SANKEN ELECTRIC COMPANY, LTD.

5. Maximum Ratings (Ta=25°C)

Description	Symbol	Rating	Unit	Conditions
Tr1 Collector-Emitter Voltage	V_{CEX}	500	V	※1
Pin# 4-2 Applying Voltage	V_{2-4}	12	V	
Pin# 2-5 Applying Voltage	V_{2-5}	12	V	
Pin# 5-9 Applying Voltage	V_{5-4}	30	V	
Pin# 7-6 Applying Voltage	V_{7-6}	5	V	
Tr1 Collector Current	$I_{C(Tr1)}$	10(Pulse:20)	A	※2
Tr4 Collector Current	$I_{C(Tr4)}$	500	mA	
D2 Forward Current	$I_{IN(D2)}$	500	mA	
D3 Forward Current	$I_{IN(D3)}$	100	mA	
Max. Power Dissipation	P_d	3.2	W	No fin ※3
		2.7		$T_d = 100^\circ\text{C}$ ※3
Tr1 Junction Temperature	T_j	+150	°C	
Frame Temperature (Operating)	T_{c2}	-20 ~ +125	°C	※4
Storage Temperature	T_{stg}	-30 ~ +125	°C	
Max. Output Current	I_d	1.7	A	$V_o = 115V$ ※5

8. Electrical Characteristic (Ta=25°C) Tr1 Characteristic

Description	Symbol	Rating	Unit	Conditions
Collector Saturation Voltage	$V_{CE(SAT)}$	0.5 Max.	V	$I_d = 6A, I_B = 1.2A$
Collector Cut-Off Current	I_{CEX}	1.0 Max.	mA	$V_{CE} = 500V, V_{BE} = -1.5V$
Base-Emitter Saturation Volt;	$V_{BE(SAT)}$	1.5 Max.	V	$I_d = 6A, I_B = 1.2A$
DC Current Gain	h_{FE}	15~40		$V_{CE} = 4V, I_C = 1A$
Thermal Resistance	θ_{j-c2}	0.7	°C/W	Junction~Internal Frame
Switching Time	t_d	10 Max.	µs	Measuring Circuit#1
	t_r	0.6 Max.		

※1 : Reference $V_{CE0} = 400V$ Min.

※2 : The Pulse applies to the condition of Reverse Bias ASO curve.

※3 : T_{c1} denotes the temperature of resin beneath the Power Transistor.

※4 : T_{c2} denotes the internal frame temperature. Recommended $T_{c2} = 100^\circ\text{C}$.

※5 : Refer to the Real Operating Circuit

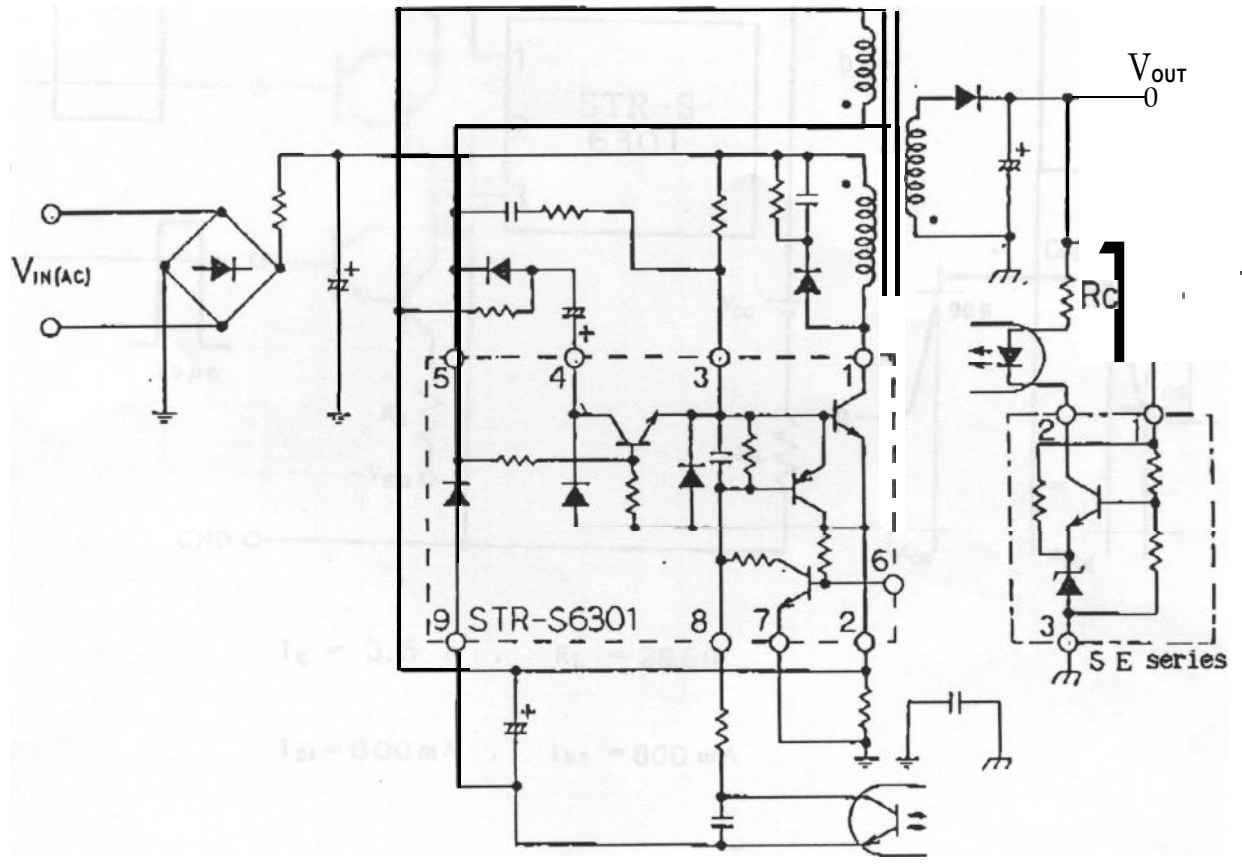
7. Suggested method of attaching heatsink

- 1) Suggested Torque: 6 ~ 8 (kgf · cm)
- 2) Suggested Silicone Grease: C-746 SHIN-ETSU CHEMICALS
YG6260 TOSHIBA SILICONE
SC102 TORAY SILICONE

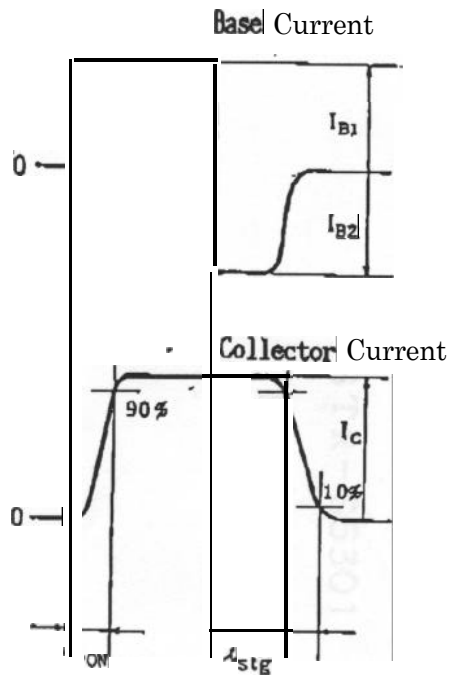
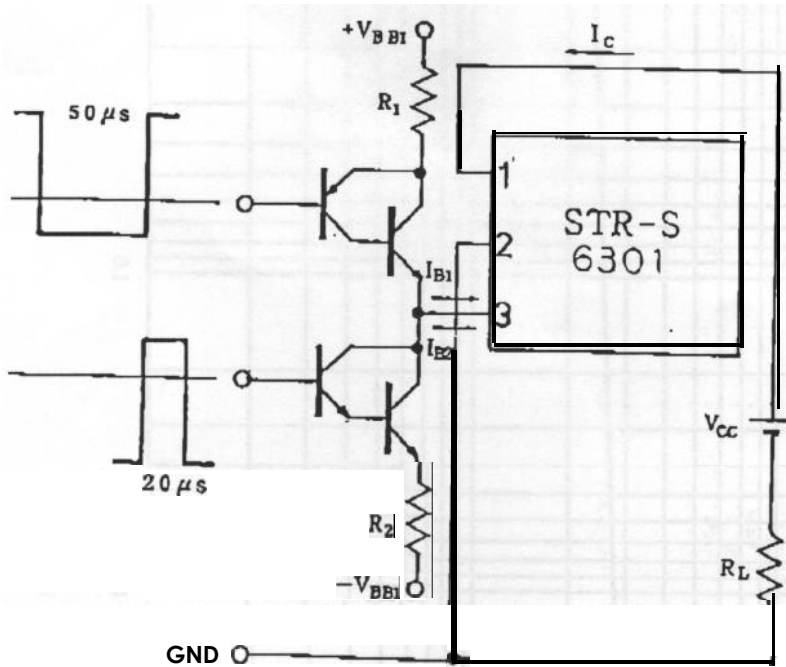
8. Other Conditions

- 1) This product is designed and built, for use under the normal environment.
It is susceptible to the radiation.
- 2) As this product is recognized as the Strategic Material which is under control of the Trade & Export Law, an export licence granted by the government is required for exportation,

Real Operating Circuit



Measuring circuit, (Switching time)

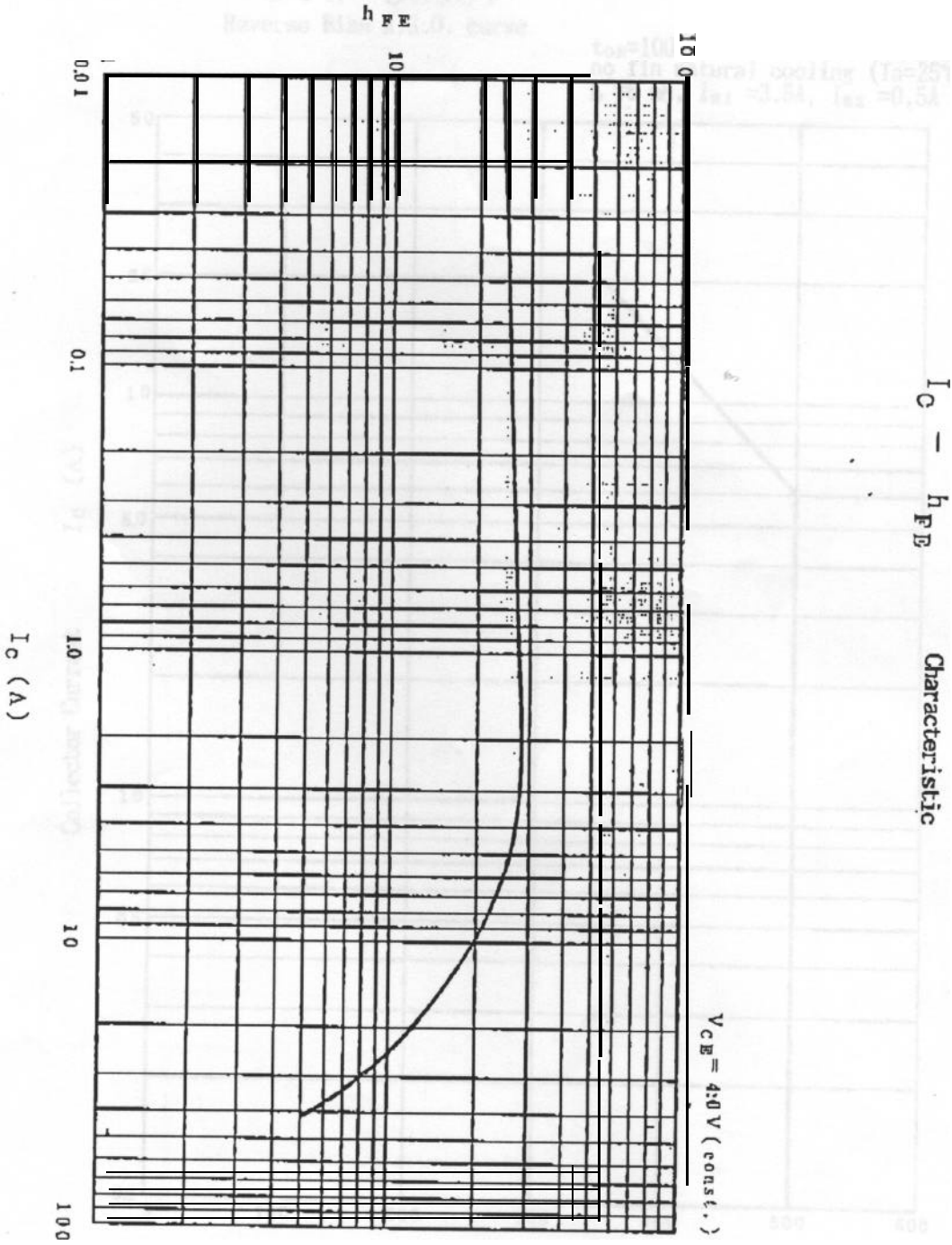


$$I_d = 3.5 \text{ A} , R_L = 28.6 \Omega$$

$$I_{B1} = 800 \text{ mA} , I_{B2} = 800 \text{ mA}$$

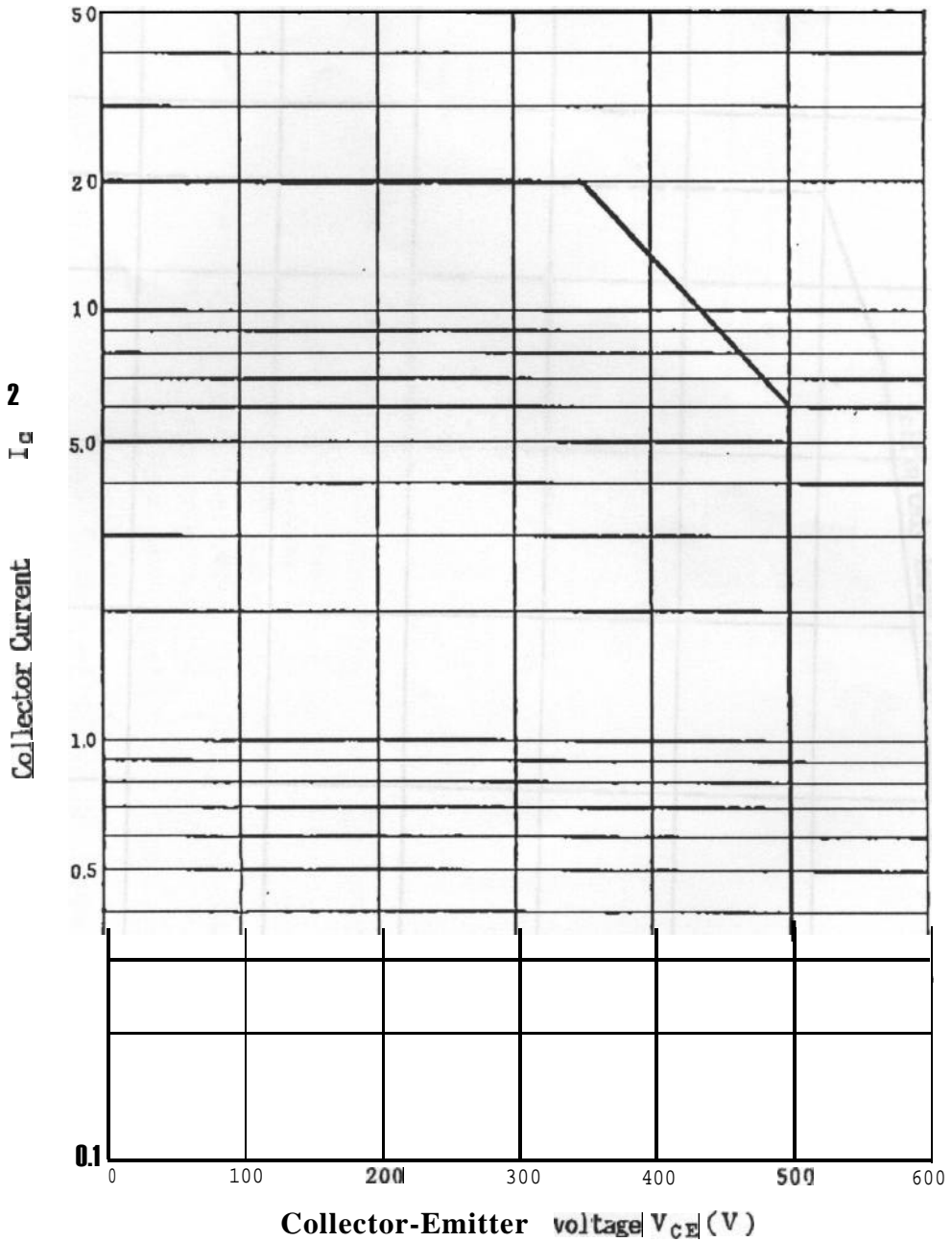
STR-S6301

$I_C - h_{FE}$ Characteristic

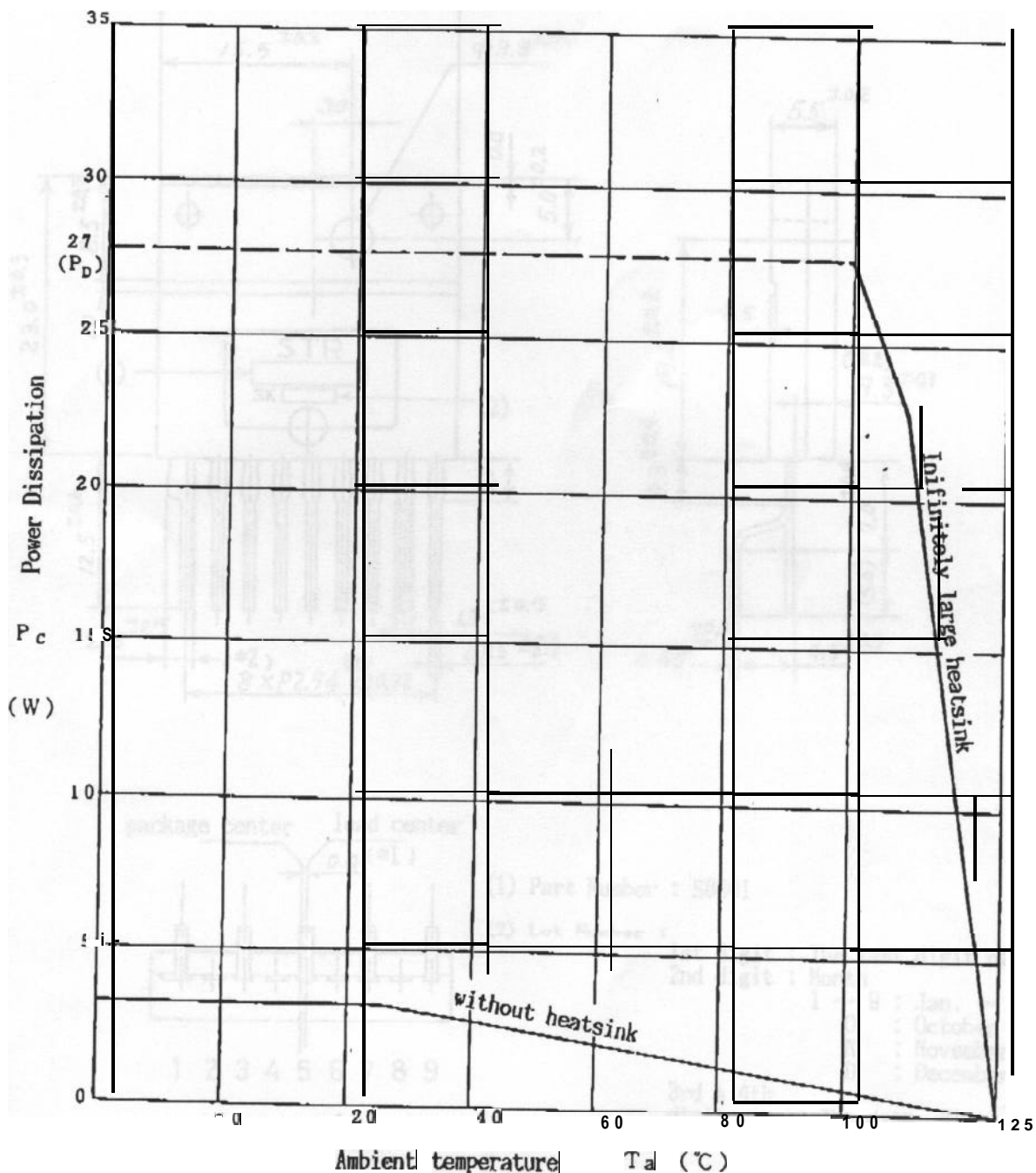


STR-S6301
Reverse Bias A.S.O. curve

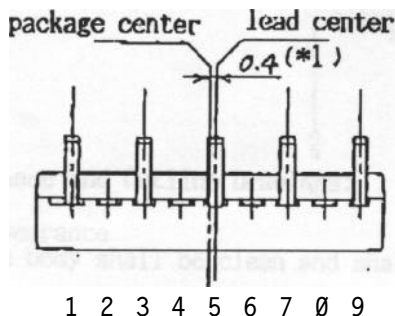
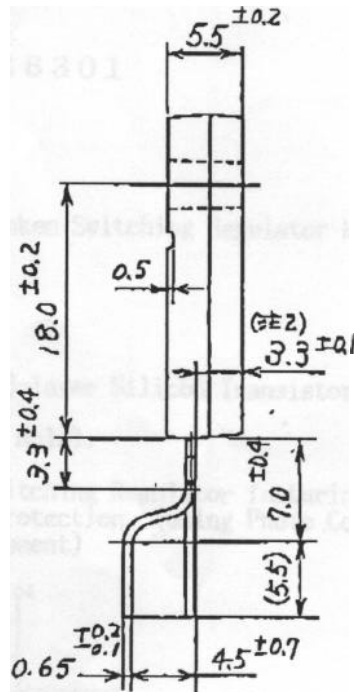
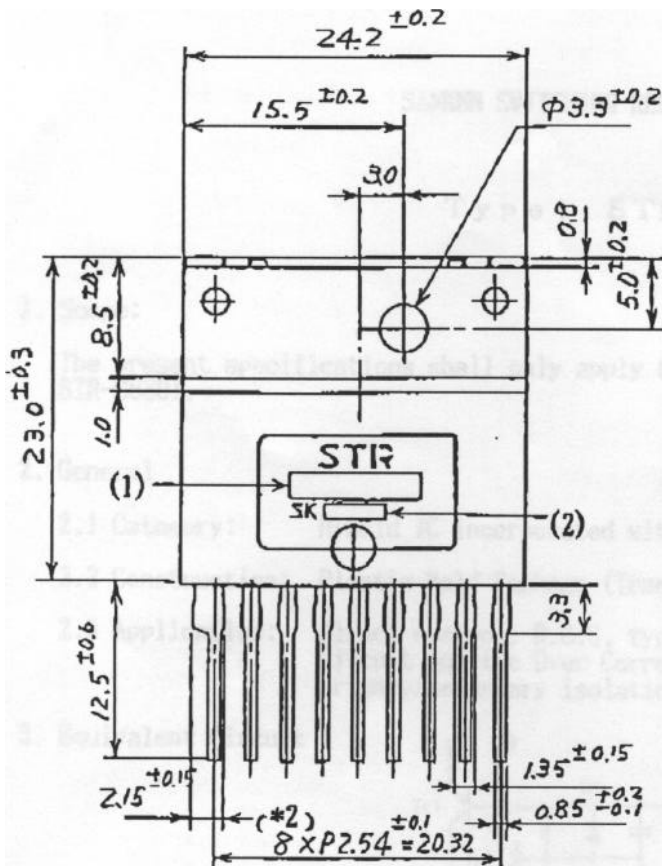
$t_{ON}=100 \mu sec$ (duty : 1% or less)
no fin natural cooling ($T_a=25^\circ C$)
 $L \square 6 mH, I_{B1}=3.5A, I_{B2}=0.5A$



STR-S6000 series derating curve



unit : mm



(1) Part Number : S6301

(2) Lot Number :

1st digit : The last digit of AD year

2nd digit : Month

1 ~ 9 : Jan. ~ Sept.

0 : October

N : November

D : December

3rd & 4th digits

: The date 01 ~ 31

*1: The lead center is offset by 0.4mm from the center of the package.
 *2: The dimension measured at the closest point to the My.