

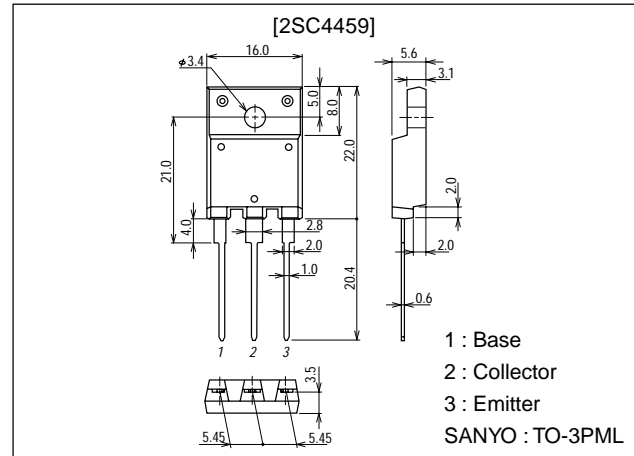
**2SC4459****500V/10A Switching Regulator Applications****Features**

- High breakdown voltage, high reliability.
- Fast switching speed.
- Wide ASO.
- Adoption of MBIT process.
- Micaless package facilitating mounting.

**Package Dimensions**

unit:mm

2039D

**Specifications****Absolute Maximum Ratings at Ta = 25°C**

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	$V_{CB0}$		800	V
Collector-to-Emitter Voltage	$V_{CEO}$		500	V
Emitter-to-Base Voltage	$V_{EBO}$		7	V
Collector Current	$I_C$		10	A
Collector Current (Pulse)	$I_{CP}$	$PW \leq 300\mu s$ , duty cycle $\leq 10\%$	20	A
Base Current	$I_B$		3	A
Collector Dissipation	$P_C$		3	W
		$T_c = 25^\circ C$	50	W
Junction Temperature	$T_j$		150	$^\circ C$
Storage Temperature	$T_{stg}$		-55 to +150	$^\circ C$

**Electrical Characteristics at Ta = 25°C**

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	$I_{CBO}$	$V_{CB} = 500V$ , $I_E = 0$			10	$\mu A$
Emitter Cutoff Current	$I_{EBO}$	$V_{EB} = 5V$ , $I_C = 0$			10	$\mu A$
DC Current Gain	$h_{FE1}$	$V_{CE} = 5V$ , $I_C = 0.8A$	15*		50*	
	$h_{FE2}$	$V_{CE} = 5V$ , $I_C = 4A$	8			

\* : For the  $h_{FE1}$  of the 2SC4459, specify two ranks or more in principle.

15	L	30	20	M	40	30	N	50
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■ SANYO assumes no responsibility for equipment failures that result from using products at values that exceed, even momentarily, rated values (such as maximum ratings, operating condition ranges, or other parameters) listed in products specifications of any and all SANYO products described or contained herein.

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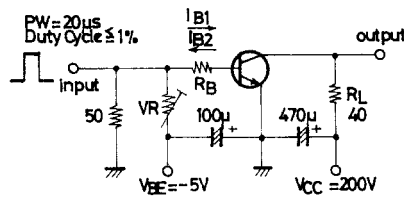
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D2598HA (KT)/7190MH, TA (KOTO) No.3330-1/4

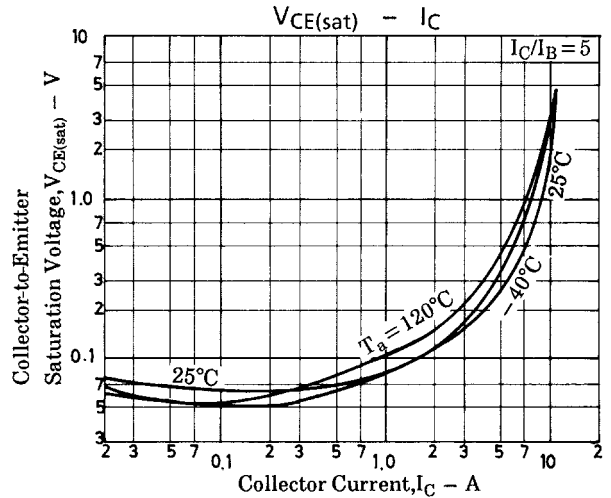
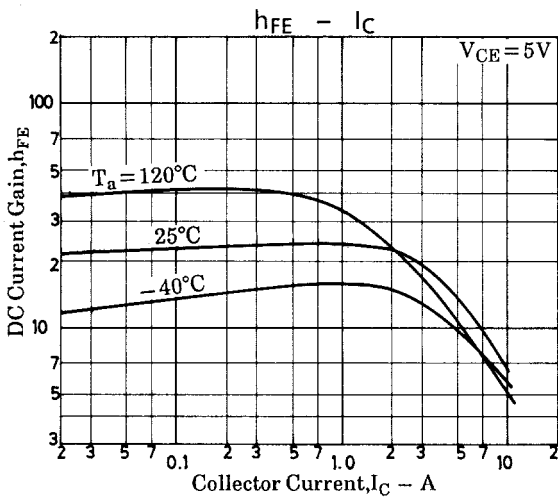
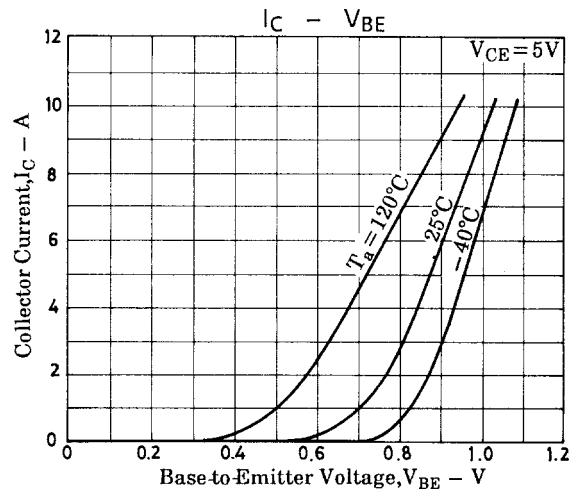
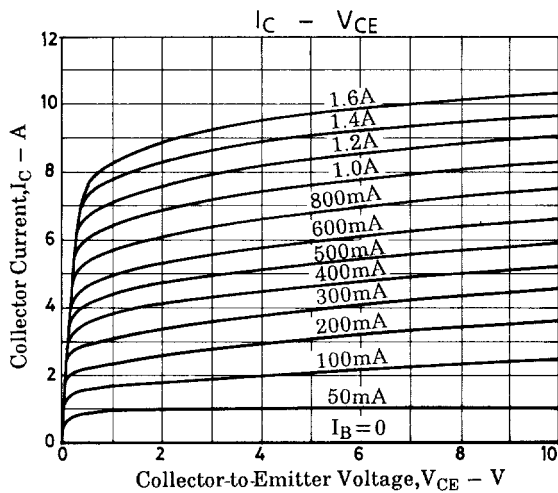
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Gain-Bandwidth Product	$f_T$	$V_{CE}=10V, I_C=0.8A$		18		MHz
Output Capacitance	$C_{ob}$	$V_{CB}=10V, f=1MHz$		50		pF
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=4A, I_B=0.8A$			1.0	V
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=4A, I_B=0.8A$			1.5	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=1mA, I_E=0$	800			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=5mA, R_{BE}=\infty$	500			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=1mA, I_C=0$	7			V
Collector-to-Emitter Sustain Voltage	$V_{CEX(sus)}$	$I_C=3.5A, I_{B1}=-I_{B2}=1.4A, L=500\mu H, \text{Clamped}$	500			V
Turn-ON Time	$t_{on}$	$V_{CC}=200V, 5I_{B1}=-2.5I_{B2}=I_C=5A, R_L=40\Omega$			0.5	$\mu s$
Storage Time	$t_{stg}$	$V_{CC}=200V, 5I_{B1}=-2.5I_{B2}=I_C=5A, R_L=40\Omega$			3.0	$\mu s$
Fall Time	$t_f$	$V_{CC}=200V, 5I_{B1}=-2.5I_{B2}=I_C=5A, R_L=40\Omega$			0.3	$\mu s$

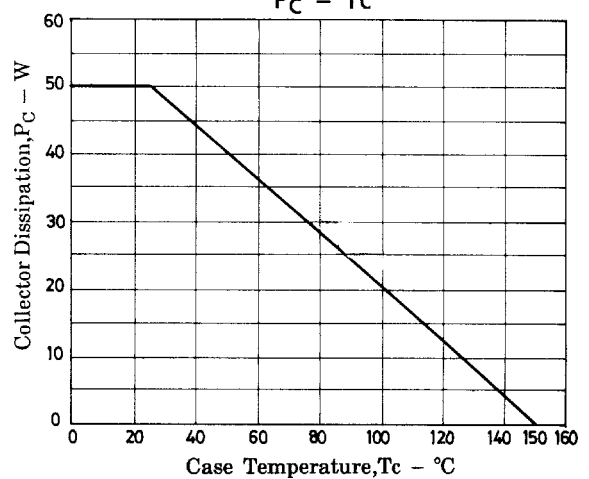
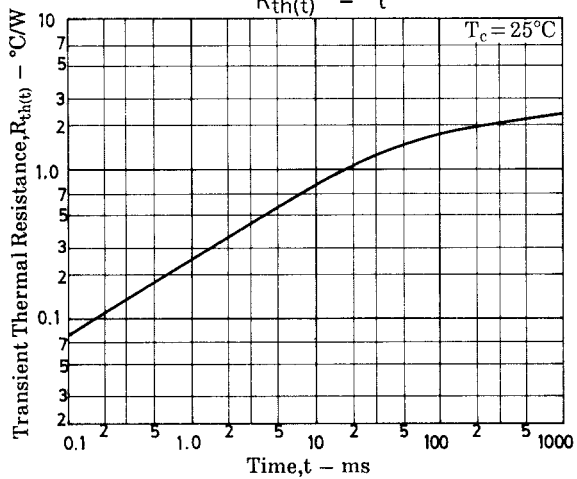
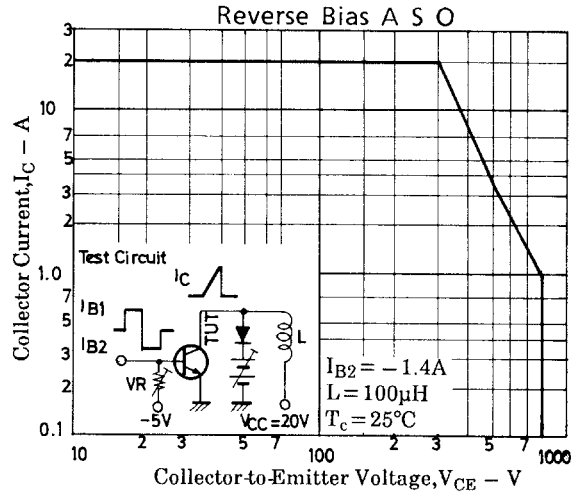
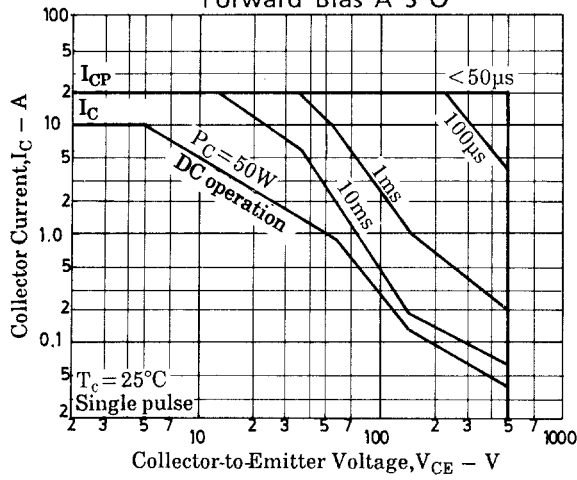
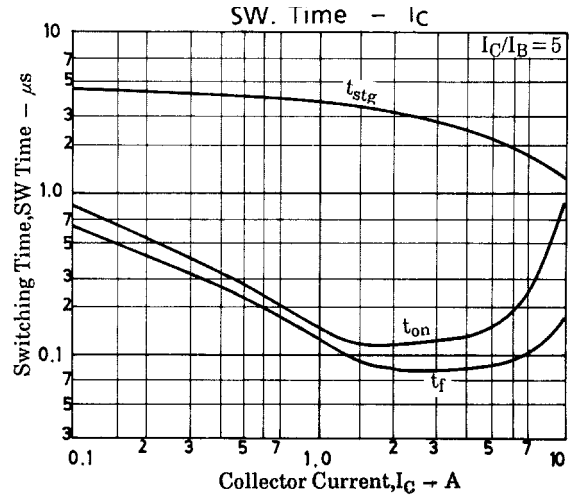
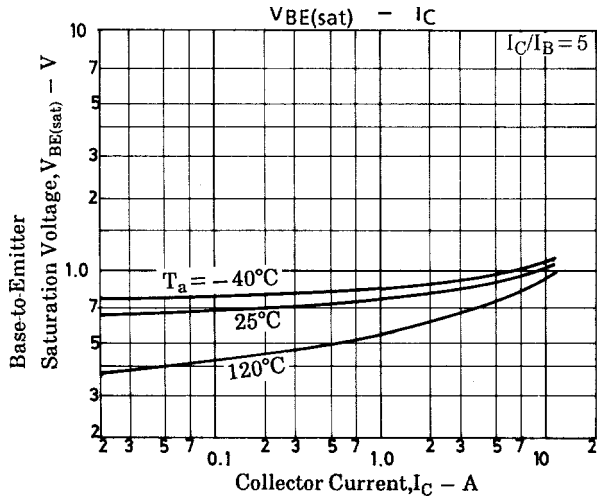
## Switching Time Test Circuit



Unit (resistance :  $\Omega$ , capacitance : F)



# 2SC4459



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