

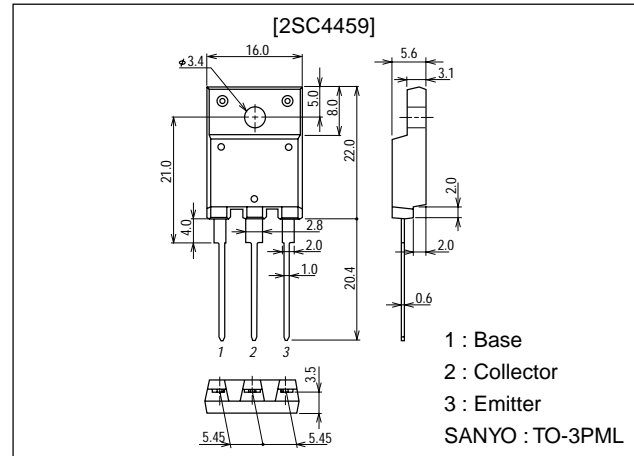
**2SC4459****500V/10A Switching Regulator Applications****Features**

- 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	Condition	Rating	Unit
Collector-to-Base Voltage	CBO		800	
Collector-to-Emitter Voltage	CEO		500	
Emitter-to-Base Voltage	EBO		7V	
Collector Current	C		1A	
Collector Current (Pulse)	CP	PW≤300μs, duty cycle≤10%	2A	
Base Current	B		3A	
Collector Dissipation	C		3W	
		Tc=25°C	5W	
Junction Temperature	T		150	°C
Storage Temperature	Tst		-55 to +150	°C

Electrical Characteristics at Ta = 25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	CBO	V _{CB} =500V, I _E =0			1A	μ
Emitter Cutoff Current	EBO	V _{EB} =5V, I _C =0			1A	μ
DC Current Gain	h _{FE1}	C _E =5V, I _C =0.8A	15*		50	
	h _{FE2}	C _E =5V, I _C =4A	8			

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

16	L	30	20	M	4	30	N	5
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SANYO Electric Co., Ltd. Semiconductor Business Headquarters

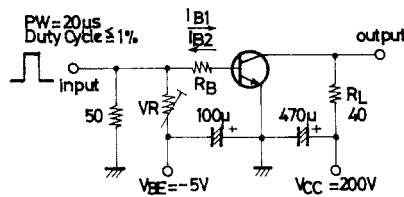
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D2598HA (KT)/7190MH, TA (KOTO) No.3330-1/4

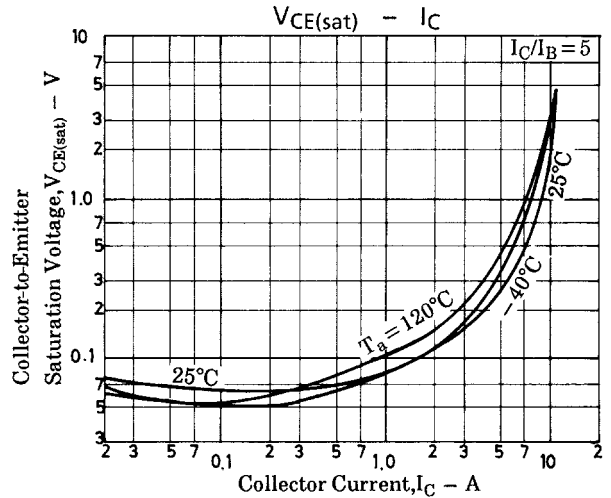
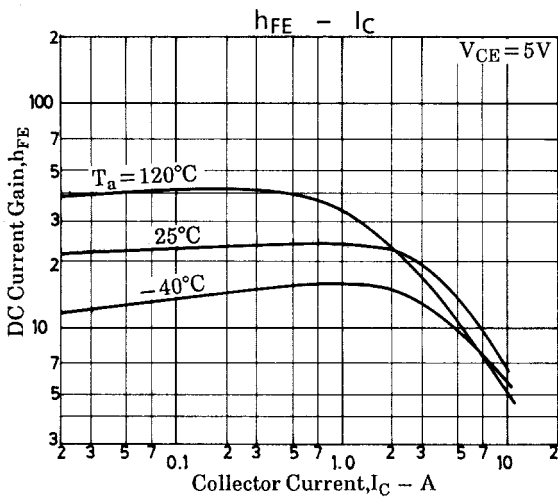
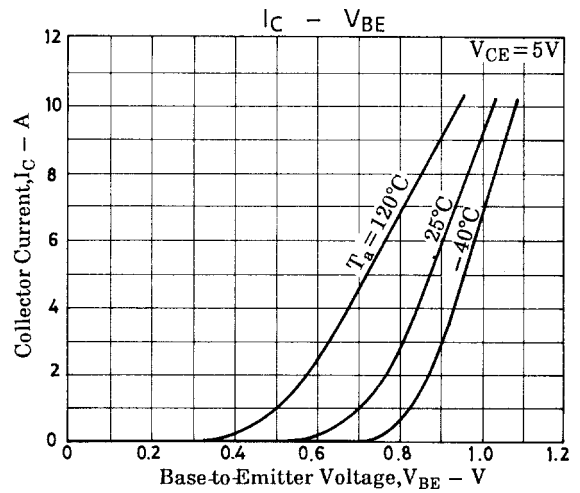
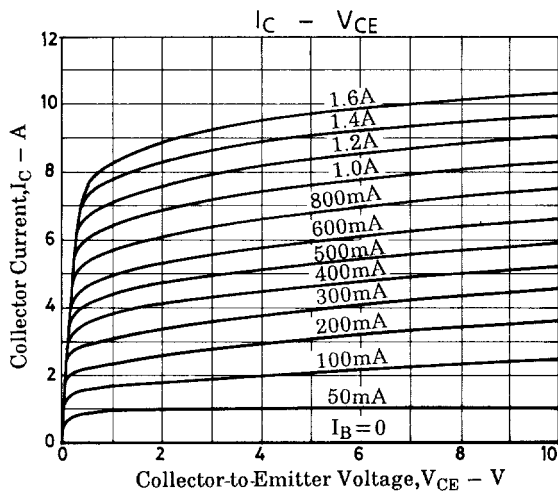
2SC4459

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	μs
Storage Time	t_{stg}	$V_{CC}=200V, 5I_{B1}=-2.5I_{B2}=I_C=5A, R_L=40\Omega$			3.0	μs
Fall Time	t_f	$V_{CC}=200V, 5I_{B1}=-2.5I_{B2}=I_C=5A, R_L=40\Omega$			0.3	μs

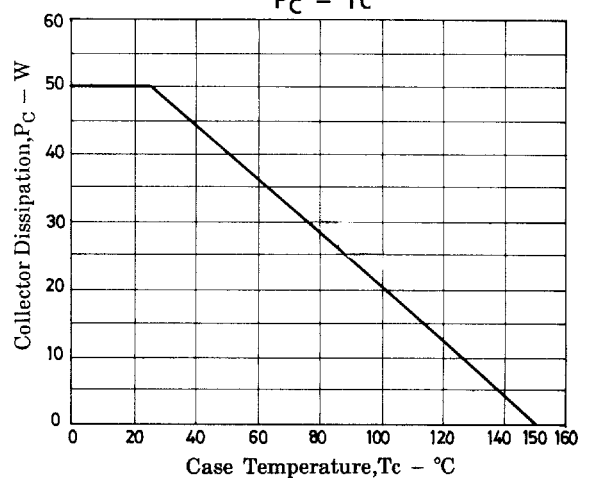
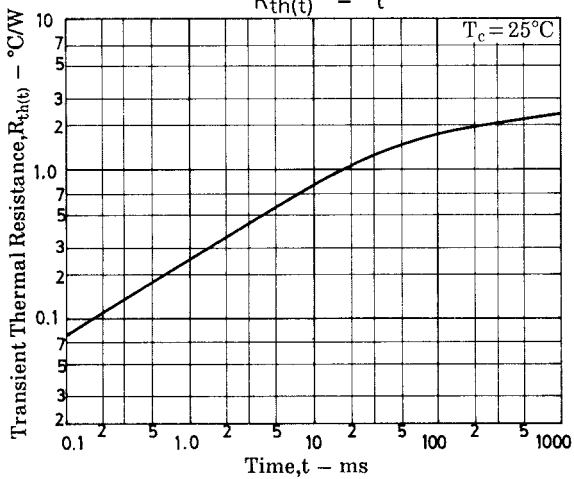
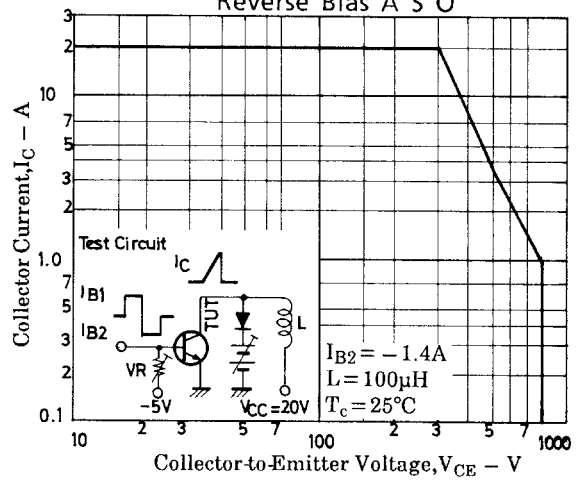
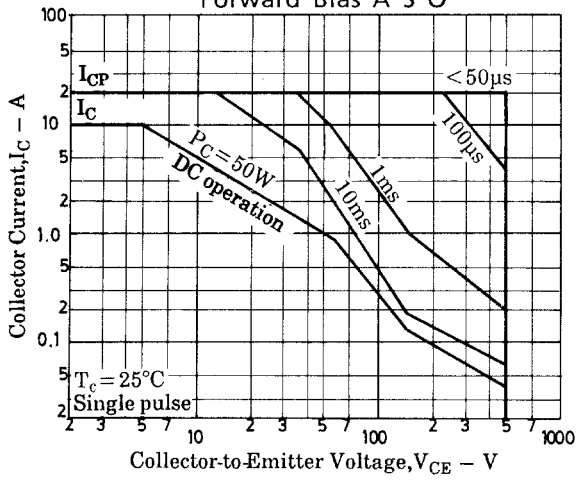
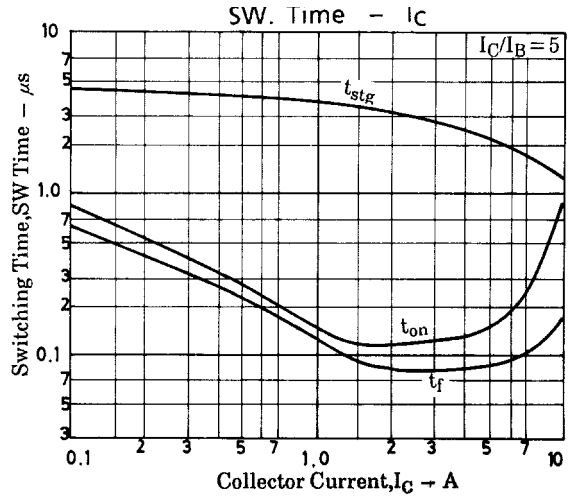
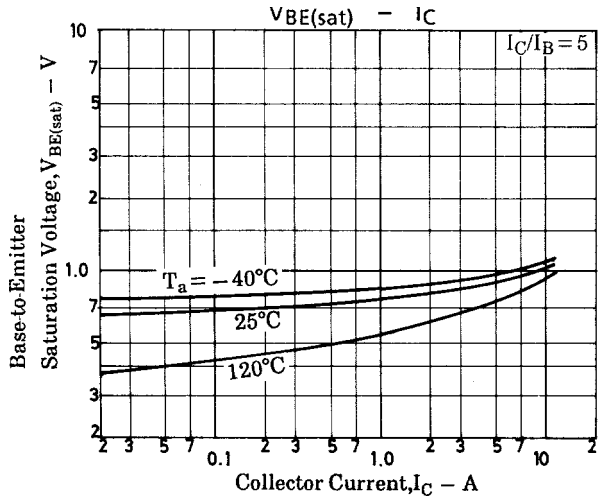
Switching Time Test Circuit



Unit (resistance : Ω , capacitance : F)



2SC4459



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