2SC4108



400V/12A Switching Regulator Applications

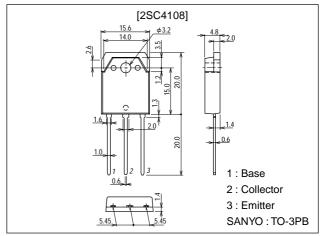
Features

- · High breakdown voltage and high reliability.
- · Fast switching speed.
- · Wide ASO.
- $\cdot \ Adoption \ of \ MBIT \ process.$

Package Dimensions

unit:mm

2022A



Specifications

Absolute Maximum Ratings at Ta = 25°C

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V _{CBO}		500	V
Collector-to-Emitter Voltage	VCEO		400	V
Emitter-to-Base Voltage	V _{EBO}		7	V
Collector Current	lС		12	А
Collector Current (Pulse)	I _{CP}	PW≤300μs, duty cycle≤10%	25	А
Base Current	I _B		4	А
Collector Dissipation	PC		2.5	W
		Tc=25°C	100	W
Junction Temperature	Tj		150	°C
Storage Temperature	Tstg		-55 to +150	°C

Electrical Characteristics at Ta = 25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	Offic
Collector Cutoff Current	I _{CBO}	V _{CB} =400V, I _E =0			10	μΑ
Emitter Cutoff Current	I _{EBO}	$V_{EB}=5V$, $I_{C}=0$			10	μΑ
DC Current Gain	h _{FE} 1	V _{CE} =5V, I _C =1.6A	15*		50*	
	h _{FE} 2	$V_{CE}=5V$, $I_{C}=8A$	10			
	h _{FE} 3	V _{CE} =5V, I _C =10mA	10			

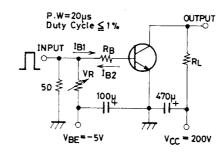
 $*: The \ h_{FE} 1 \ of the \ 2SC4108 \ is \ classified \ as \ follows. \ When \ specifying \ the \ h_{FE} 1 \ rank, \ specify \ two \ ranks \ or \ more \ in \ principle.$

15 L 30 | 20 M 40 | 30 N 50

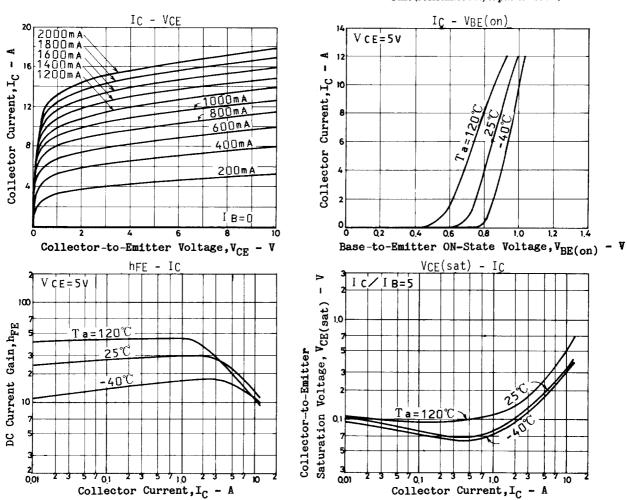
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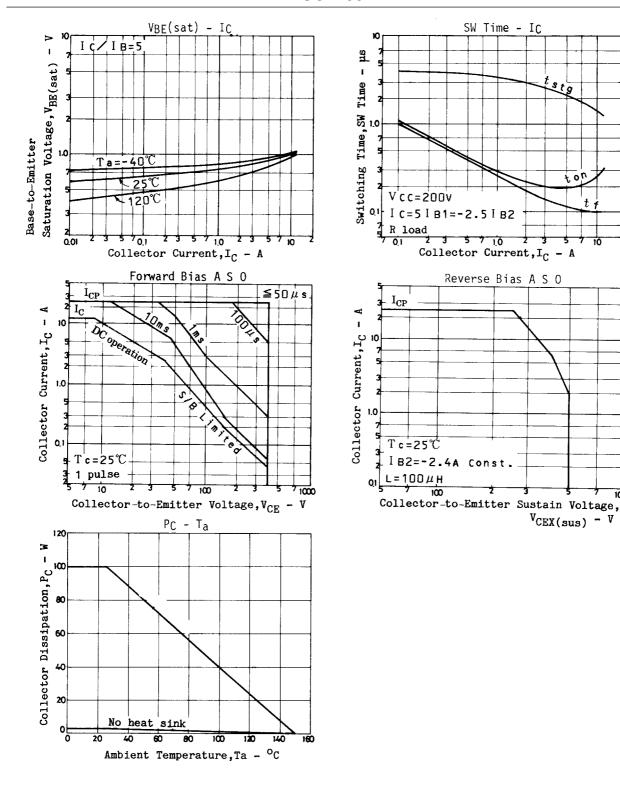
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	Offic
Collector-to-Emitter Saturation Voltage	VCE(sat)	I _C =8A, I _B =1.6A			0.8	V
Base-to-Emitter Saturation Voltage	V _{BE(sat)}	I _C =8A, I _B =1.6A			1.5	V
Gain-Bandwidth Product	fT	V _{CE} =10V, I _C =1.6A		20		MHz
Output Capacitance	C _{ob}	V _{CB} =10V, f=1MHz		160		pF
Collector-to-Base Breakdown Voltage	V(BR)CBO	I _C =1mA, I _E =0	500			V
Collector-to-Emitter Breakdown Voltage	V(BR)CEO	I _C =5mA, R _{BE} =∞	400			V
Emitter-to-Base Breakdown Voltage	V(BR)EBO	I _E =1mA, I _C =0	7			V
Collector-to-Emitter Sustain Voltage	VCEX(sus)	I _C =6A, I _{B1} =0.6A, I _{B2} =-2.4A, L=500μH, clamped	400			V
Turn-ON Time	ton	I _C =10A, I _{B1} =2A, I _{B2} =-4A, R _L =20Ω, V _{CC} =200V			0.5	μs
Storage Time	tstg	I _C =10A, I _{B1} =2A, I _{B2} =-4A, R _L =20Ω, V _{CC} =200V			2.5	μs
Fall Time	t _f	I _C =10A, I _{B1} =2A, I _{B2} =-4A, R _L =20Ω, V _{CC} =200V			0.3	μs

Switching Time Test Circuit



Unit (resistance : Ω , capacitance : F)





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