2SC3040



400V/8A Switching Regulator Applications

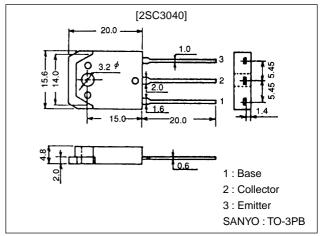
Features

- · High breakdown voltage (V_{CBO}≥500V).
- · Fast switching speed.
- · Wide ASO.

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	IC		8	Α
Collector Current (Pulse)	I _{CP}	PW≤300μs, Duty Cycle≤10%	16	Α
Base Current	I _B		3	Α
Collector Dissipation	PC		2.5	W
		Tc=25°C	80	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	Oille
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 =0.8A	15*		50*	
	h _{FE} 2	V _{CE} =5V, I _C =4A	8			
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

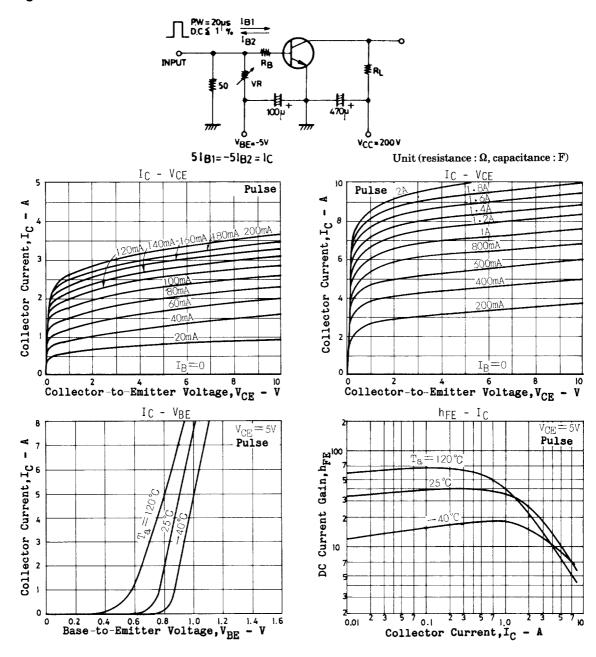
*: The h_{FE}1 of the 2SC3040 is classified as follows. When specifying the h_{FE}1 rank, specify two ranks or more in principle.

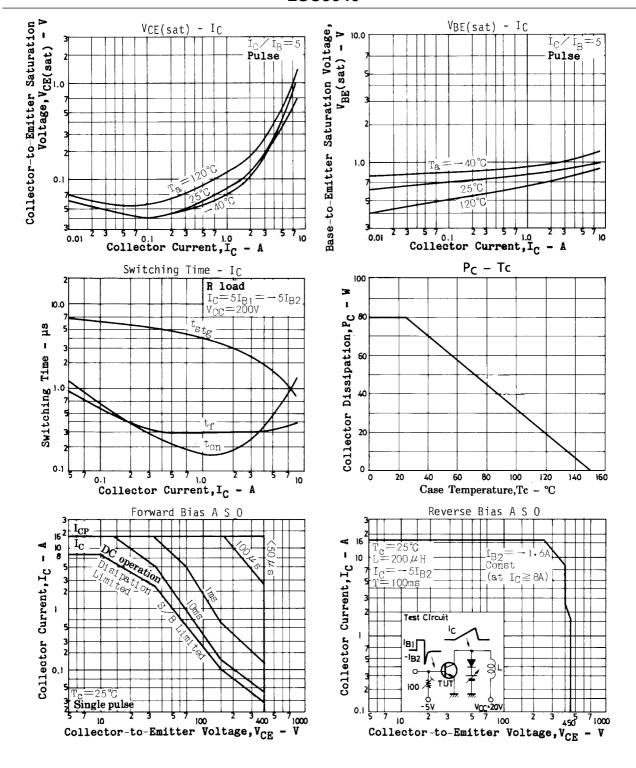
15 L 30 20 M 40 30 N 50

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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	Unit
Gain-Bandwidth Product	fT	V _{CE} =10V, I _C =0.8A		20		MHz
Output Capacitance	C _{ob}	V _{CB} =10V, f=1MHz		80		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 =10mA, 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	VCEO(sus)	I _C =8A, I _B =1.6A, L=50μH	400			V
Collector-to-Emitter Sustain Voltage	VCEX(sus)1	I _C =8A, I _{B1} =1.6A, L=200μH, I _{B2} =-1.6A, clamped	400			V
	VCEX(sus)2	I _C =1.5A, I _{B1} =0.3A, L=200μH, I _{B2} =-0.3A, clamped	450			V
Turn-ON Time	ton	I _C =5A, I _{B1} =1A, I _{B2} =-1A, R _L =40Ω, V _{CC} =200V			1.0	μs
Storage Time	t _{stg}	I _C =5A, I _{B1} =1A, I _{B2} =-1A, R _L =40Ω, V _{CC} =200V			2.5	μs
Fall Time	t _f	I _C =5A, I _{B1} =1A, I _{B2} =-1A, R _L =40Ω, V _{CC} =200V			1.0	μs

Switching Time Test Circuit





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