2SC3457



800V/3A Switching Regulator Applications

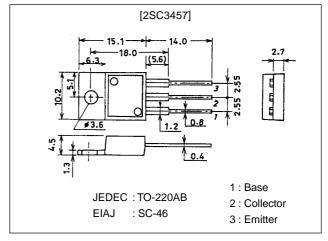
Features

- · High breakdown voltage and high reliability.
- · Fast switching speed (t_f : 0.1 μ s typ).
- · Wide ASO.
- $\cdot \ Adoption \ of \ MBIT \ process.$

Package Dimensions

unit:mm

2010C



Specifications

Absolute Maximum Ratings at Ta = 25°C

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Parameter	Symbol	Conditions	Ratings	Unit	
Collector-to-Base Voltage	V _{CBO}		1100	V	
Collector-to-Emitter Voltage	V _{CEO}		800	V	
Emitter-to-Base Voltage	V _{EBO}		7	V	
Collector Current	IC		3	Α	
Collector Current (Pulse)	I _{CP}	PW≤300μs, Duty Cycle≤10%	10	Α	
Base Current	Ι _Β		1.5	А	
Collector Dissipation	PC	Tc=25°C	50	W	
Junction Temperature	Tj		150	°C	
Storage Temperature	Tstg		-55 to +150	°C	

Electrical Characteristics at Ta = 25°C

Parameter	Symbol	Conditions		Ratings		
	Symbol		min	typ	max	Unit
Collector Cutoff Current	I _{CBO}	V _{CB} =800V, I _E =0			10	μA
Emitter Cutoff Current	I _{EBO}	V _{EB} =5V, I _C =0			10	μA
DC Current Gain	h _{FE} 1	V _{CE} =5V, I _C =0.2A	10*		40*	
	h _{FE} 2	V _{CE} =5V, I _C =1A	8			
Gain-Bandwidth Product	f _T	V _{CE} =10V, I _C =0.2A		15		MHz
Output Capacitance	C _{ob}	V _{CB} =10V, f=1MHz		60		pF

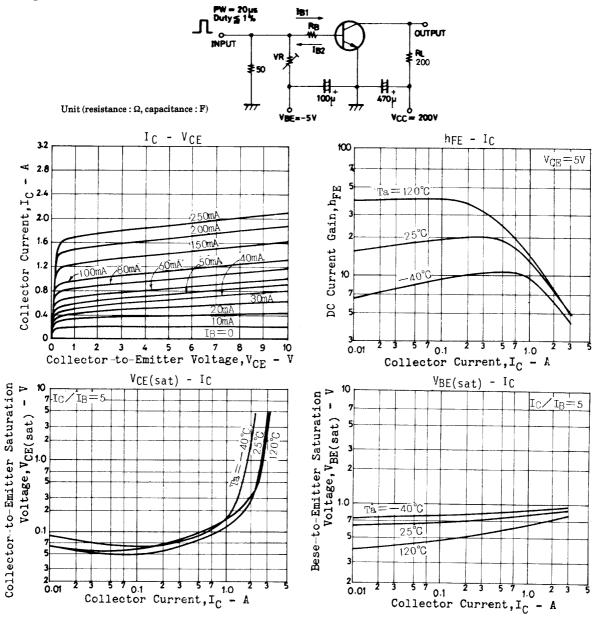
*: The h_{FE}1 of the 2SC3457 is classified as follows. When specifying the h_{FE}1 rank, specify two ranks or more in principle.

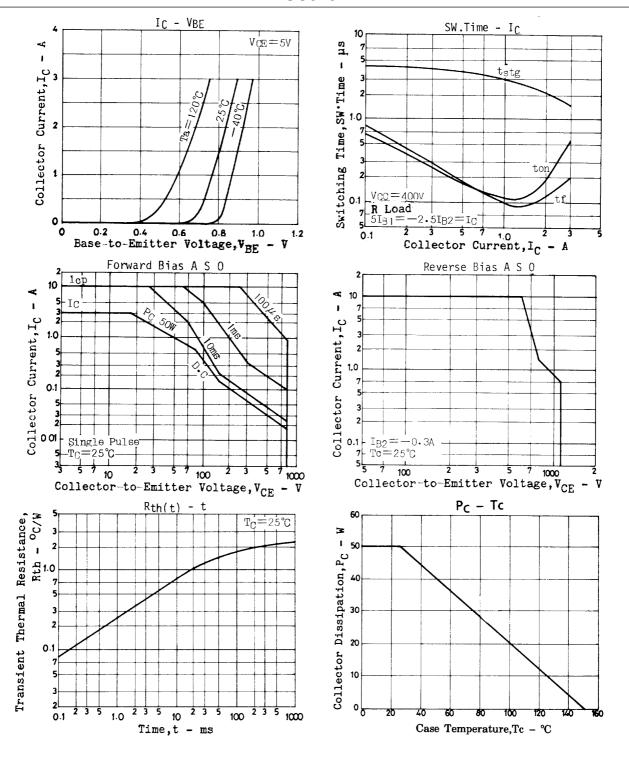
10 K 20 15 L 30 20 M 40

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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	Oill
Collector-to-Emitter Saturation Voltage	V _{CE(sat)}	I _C =1.5A, I _B =0.3A			2.0	V
Base-to-Emitter Saturation Voltage	V _{BE(sat)}	I _C =1.5A, I _B =0.3A			1.5	V
Collector-to-Base Breakdown Voltage	V(BR)CBO	I _C =1mA, I _E =0	1100			V
Collector-to-Emitter Breakdown Voltage	V(BR)CEO	I _C =5mA, R _{BE} =∞	800			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 =1.5A, I _{B1} =-I _{B2} =0.3A, L=2mH, clamped	800			V
Turn-ON Time	ton	V_{CC} =400V, $5I_{B1}$ =-2. $5I_{B2}$ = I_{C} =2A, R_{L} =200 Ω			0.5	μs
Storage Time	t _{stg}	V_{CC} =400V, $5I_{B1}$ =-2. $5I_{B2}$ = I_{C} =2A, R_{L} =200 Ω			3.0	μs
Fall Time	t _f	V_{CC} =400V, $5I_{B1}$ =-2. $5I_{B2}$ = I_{C} =2A, R_{L} =200 Ω			0.3	μs

Switching Time Test Circuit





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