2SC4460



500V/15A Switching Regulator Applications

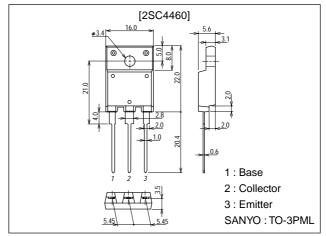
Features

- · 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

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Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V _{CBO}		800	V
Collector-to-Emitter Voltage	V _{CEO}		500	V
Emitter-to-Base Voltage	V _{EBO}		7	V
Collector Current	I _C		15	Α
Collector Current (Pulse)	I _{CP}	PW≤300μs, duty cycle≤10%	25	Α
Base Current	Ι _Β		4	Α
Collector Dissipation	PC		3	W
		Tc=25°C	55	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	Oill
Collector Cutoff Current	I _{CBO}	V _{CB} =500V, 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 =1.2A	15*		50*	
	h _{FE} 2	V _{CE} =5V, I _C =6A	8			

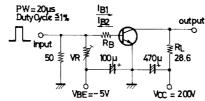
*: For the $h_{\text{FE}}1$ of the 2SC4460, specify two ranks or more in principle.

15 L 30 20 M 40 30 N 50

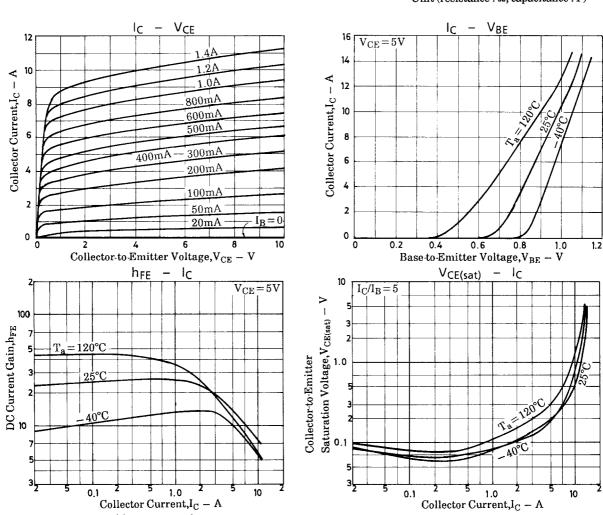
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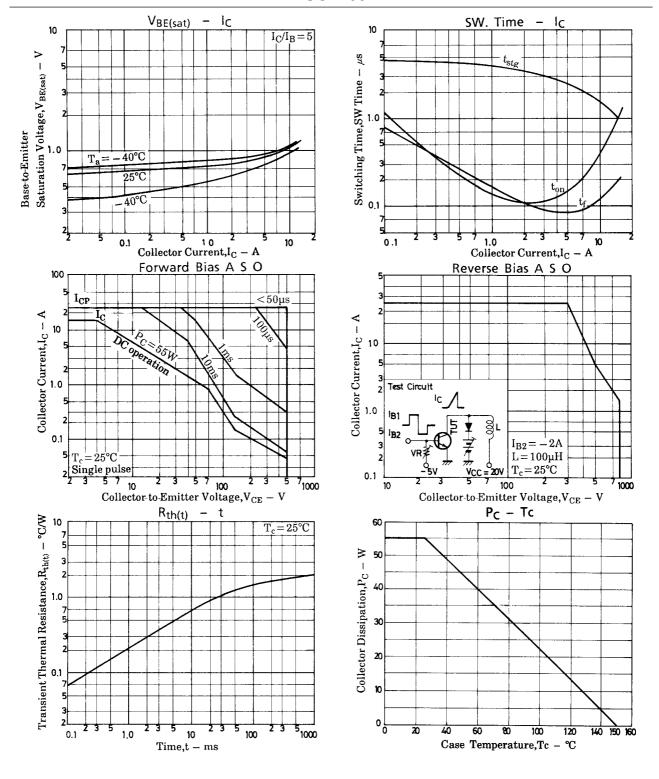
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	Oill
Gain-Bandwidth Product	f _T	V _{CE} =10V, I _C =1.2A		18		MHz
Output Capacitance	C _{ob}	V _{CB} =10V, f=1MHz		160		pF
Collector-to-Emitter Saturation Voltage	V _{CE(sat)}	I _C =6A, I _B =1.2A			1.0	V
Base-to-Emitter Saturation Voltage	V _{BE(sat)}	I _C =6A, I _B =1.2A			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} =∞	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 =5A, I _{B1} =-I _{B2} =2A, L=500μH, Clamped	500			V
Turn-ON Time	ton	V_{CC} =200V, $5I_{B1}$ =-2. $5I_{B2}$ = I_{C} =7A, R_{L} =28. 6Ω			0.5	μs
Storage Time	t _{stg}	V _{CC} =200V, 5l _{B1} =-2.5l _{B2} =l _C =7A, R _L =28.6Ω			3.0	μs
Fall Time	t _f	V _{CC} =200V, 5l _{B1} =-2.5l _{B2} =l _C =7A, R _L =28.6Ω			0.3	μs

Switching Time Test Circuit



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





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