2SC4427



800V/4.5A Switching Regulator Applications

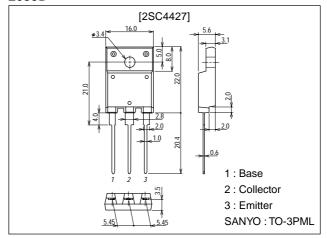
Features

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

Package Dimensions

unit:mm

2039D



Specifications

Absolute Maximum Ratings at Ta = 25°C

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V _{CBO}		1100	V
Collector-to-Emitter Voltage	VCEO		800	V
Emitter-to-Base Voltage	V _{EBO}		7	V
Collector Current	I _C		4.5	Α
Collector Current (Pulse)	I _{CP}	PW≤300μs, duty cycle≤10%	15	А
Base Current	I _B		2	А
Collector Dissipation	PC		3	W
		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			Unit
			min	typ	max	l Oliii
Collector Cutoff Current	I _{CBO}	V _{CB} =800V, I _E =0			10	μΑ
Emitter Cutoff Current	I _{EBO}	V _{EB} =5V, I _C =0			10	μΑ
DC Current Gain	hFE1*	V _{CE} =5V, I _C =0.3A	10		40	
	h _{FE} 2	V _{CE} =5V, I _C =1.5A	8			

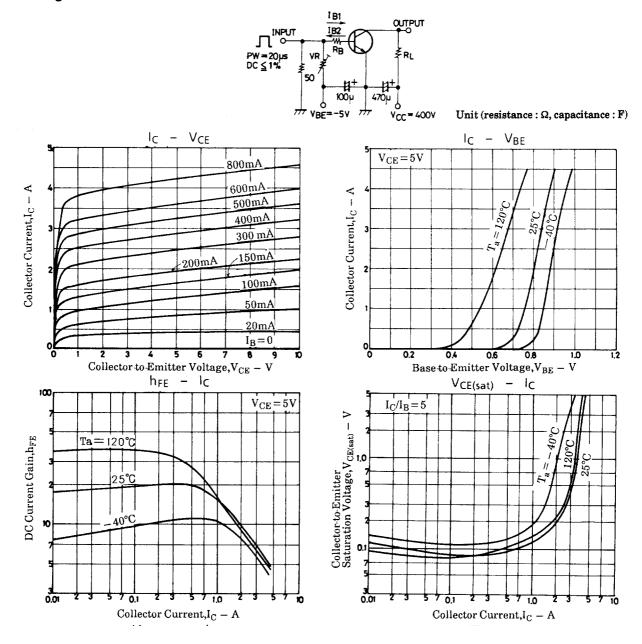
*: The h_{FE}1 of the 2SC4427 is classified as follows. When specifying the h_{FE}1 rank, specify two ranks or more in principle.

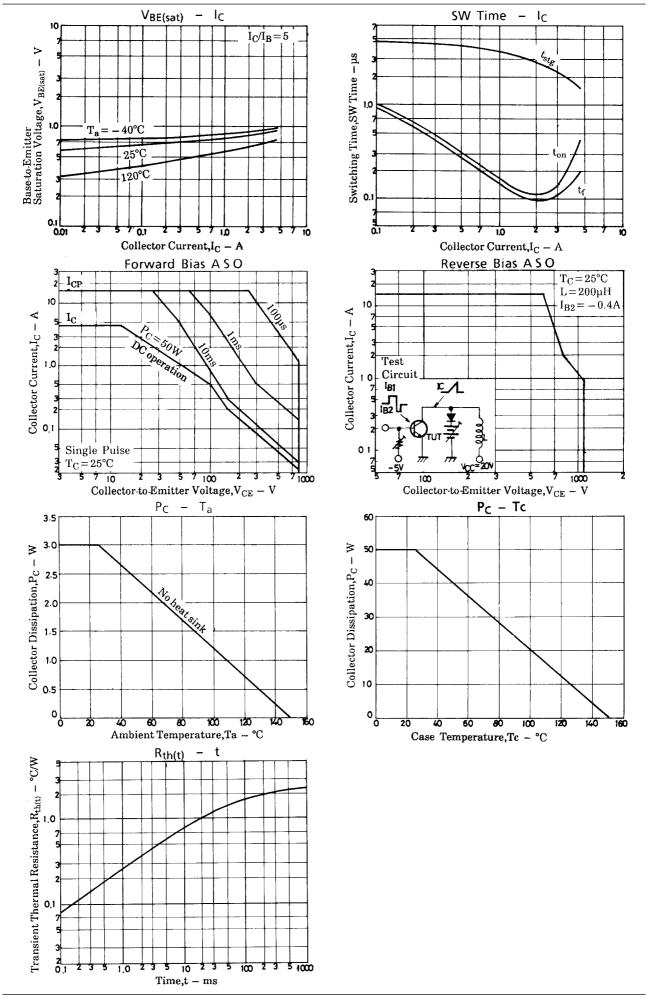
10 K 20 15 L 30 20 M 40

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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	Uill
Collector-to-Emitter Saturation Voltage	V _{CE(sat)}	I _C =2A, I _B =0.4A			2.0	V
Base-to-Emitter Saturation Voltage	V _{BE(sat)}	I _C =2A, I _B =0.4A			1.5	V
Gain-Bandwidth Product	fT	V _{CE} =10V, I _C =0.3A		15		MHz
Output Capacitance	C _{ob}	V _{CB} =10V, f=1MHz		90		pF
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	V _{CEX(sus)}	I _C =2A, I _{B1} =0.4A, I _{B2} =-0.4A, L=2mH, Clamped	800			V
Turn-ON Time	ton	I_{C} =3A, I_{B1} =0.6A, I_{B2} =-1.2A, R_{L} =133 Ω , V_{CC} =400 V			0.5	μs
Storage Time	t _{stg}	I_{C} =3A, I_{B1} =0.6A, I_{B2} =-1.2A, R_{L} =133 Ω , V_{CC} =400 V			3.0	μs
Fall Time	t _f	I _C =3A, I _{B1} =0.6A, I _{B2} =-1.2A, R _L =133Ω, V _{CC} =400V			0.3	μs

Switching Time Test Circuit





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