High-voltage Switching Transistor (Power Supply) (120V, 7A)

2SC4849

●Features

1) Low saturation voltage, typically $V_{CE(sat)}$ =0.17 at I_C / I_B=5A / 0.5A.
2) High switching speed, typically tf=0.17 μs at I_C=5A.
3) Wide SOA. (safe operating area)

●Packaging specifications and h_{FE}

Type	2SC4849
Package	TO−220FP
h_{FE}	E
Code	—
Basic ordering unit (pieces)	500

●Absolute maximum ratings (Ta=25℃)

Parameter	Symbol	Limits	Unit
Collector-base voltage	V_{CBO}	250	V
Collector-emitter voltage	V_{CEO}	120	V
Emitter-base voltage	V_{EBO}	12	V
Collector current	I_C	7	A
		15	A (t=100ms)
Collector power dissipation	P_C	2	W
		30	W (Tc=25℃)
Junction temperature	Tj	150	℃
Storage temperature	Tstg	−55～+150	℃

●Electrical characteristics (Ta=25℃)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-emitter breakdown voltage	$V_{CEX(SUS)}$	125	—	—	V	I_{CP}=8A , I_{B1}=−I_{B2}=0.5A , I_C=5A , L=200 μH clamped
Collector cutoff current	I_{CBO}	—	—	10	μA	V_{CB}=100V
Collector cutoff current	I_{EBO}	—	—	10	μA	V_{EB}=12V
Collector-emitter saturation voltage	$V_{CE(sat)}$	—	—	0.6	V	I_C/I_B=5A/0.5A
Base-emitter saturation voltage	$V_{BE(sat)}$	—	—	1.2	V	I_C/I_B=5A/0.5A
DC current transfer ratio	h_{FE}	100	—	200	—	V_{CE}/I_C=5V/3A
Transition frequency	fT	—	20	—	MHz	V_{CE}=10V , I_E=−0.5A
Output capacitance	Cob	—	150	—	pF	V_{CB}=10V , I_E=0A , f=1MHz
Turn-on time	t_{on}	—	—	0.5	μs	I_C=5A , R_L=10Ω
Storage time	t_{stg}	—	—	2.5	μs	I_{B1}=−I_{B2}=0.5A
Fall time	tf	—	—	0.5	μs	V_{CC}≒50V
Collector cutoff current	I_{CEO}	—	—	2	mA	V_{CE}=100V , Ta=125℃

(94L-712-C342)

Medium Power Transistor (Chroma Output) (300V, 0.1A)

2SC5147

●Features

1) High breakdown voltage. (BV_{CEO}=300V)
2) Low collector output capacitance. (Typ. 3pF at V_{CB}=30V)
3) Wide SOA. (safe operating area)
4) Ideal for color TV chroma output and amplification of video signals.

●Packaging specifications and h_{FE}

Type	2SC5147
Package	TO−220FN
h_{FE}	DE
Code	—
Basic ordering unit (pieces)	500

●Absolute maximum ratings (Ta=25℃)

Parameter	Symbol	Limits	Unit
Collector-base voltage	V_{CBO}	300	V
Collector-emitter voltage	V_{CEO}	300	V
Emitter-base voltage	V_{EBO}	5	V
Collector current	I_C	100	mA (DC)
Collector power dissipation	P_C	2	W
		10	W (Tc=25℃)
Junction temperature	Tj	150	℃
Storage temperature	Tstg	−55～+150	℃

●Electrical characteristics (Ta=25℃)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV_{CBO}	300	—	—	V	I_C=50 μA
Collector-emitter breakdown voltage	BV_{CEO}	300	—	—	V	I_C=100 μA
Emitter-base breakdown voltage	BV_{EBO}	5	—	—	V	I_E=50 μA
Collector cutoff current	I_{CBO}	—	—	0.5	μA	V_{CB}=200V
Emitter cutoff current	I_{EBO}	—	—	0.5	μA	V_{EB}=4V
Collector-emitter saturation voltage	$V_{CE(sat)}$	—	0.2	1	V	I_C/I_B=50mA/5mA *
DC current transfer ratio	h_{FE}	60	—	200	—	V_{CE}/I_C=10V/10mA
Transition frequency	fT	50	100	—	MHz	V_{CE}=30V , I_E=−20mA , f=30MHz
Output capacitance	Cob	—	3	—	pF	V_{CB}=30V , I_E=0A , f=1MHz

* Measured using pulse current.

(96-736-C358)

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