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SANYO Semiconductors

DATA SHEET

2SC3807C — NPN Epitaxial Planar Silicon Transistor

25V / 2A High-hFE, Low Frequency General-Purpose Amplifier Applications

Applications

- Low-frequency general-purpose amplifiers, drivers.

Features

- Large current capacity ($I_C=2A$).
- Adoption of MBIT process.
- High DC current gain ($hFE=1000$ to 2000).
- Low collector-to-emitter saturation voltage ($V_{CE(sat)}\leq 0.5V$).
- High V_{EBO} ($V_{EBO}\geq 17V$).

Specifications

Absolute Maximum Ratings at $T_a=25^\circ C$

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V_{CBO}		30	V
Collector-to-Emitter Voltage	V_{CEO}		25	V
Emitter-to-Base Voltage	V_{EBO}		17	V
Collector Current	I_C		2	A
Collector Current (Pulse)	I_{CP}		4	A
Collector Dissipation	P_C	$T_c=25^\circ C$	1.2	W
Junction Temperature	T_j		15	W
Storage Temperature	T_{stg}		150	°C
			-55 to +150	°C

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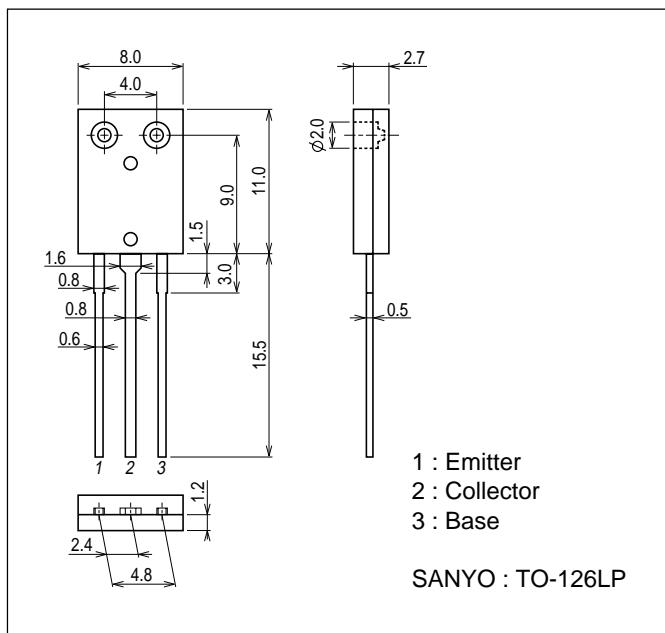
查詢2SC3807C特性和
Electrical Characteristics at $T_a=25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CBO}	$V_{CB}=20\text{V}, I_E=0\text{A}$			0.1	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=10\text{V}, I_C=0\text{A}$			0.1	μA
DC Current Gain	h_{FE1}	$V_{CE}=5\text{V}, I_C=500\text{mA}$	1000		2000	
	h_{FE2}	$V_{CE}=5\text{V}, I_C=1\text{A}$	600			
Gain-Bandwidth Product	f_T	$V_{CE}=10\text{V}, I_C=0.1\text{A}$		260		MHz
Output Capacitance	C_{ob}	$V_{CB}=10\text{V}, f=1\text{MHz}$		24		pF
Collector-to-Emitter Saturation Voltage	$V_{CE(\text{sat})}$	$I_C=1\text{A}, I_B=20\text{mA}$		0.15	0.5	V
Base-to-Emitter Saturation Voltage	$V_{BE(\text{sat})}$	$I_C=1\text{A}, I_B=20\text{mA}$		0.85	1.2	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=10\mu\text{A}, I_E=0\text{A}$	30			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=1\text{mA}, R_{BE}=\infty$	25			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=10\mu\text{A}, I_C=0\text{A}$	17			V
Turn-ON Time	t_{on}	See specified Test Circuit.		0.14		μs
Storage Time	t_{stg}	See specified Test Circuit.		0.8		μs
Fall Time	t_f	See specified Test Circuit.		0.12		μs

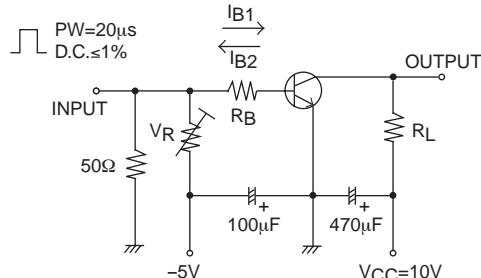
Package Dimensions

unit : mm (typ)

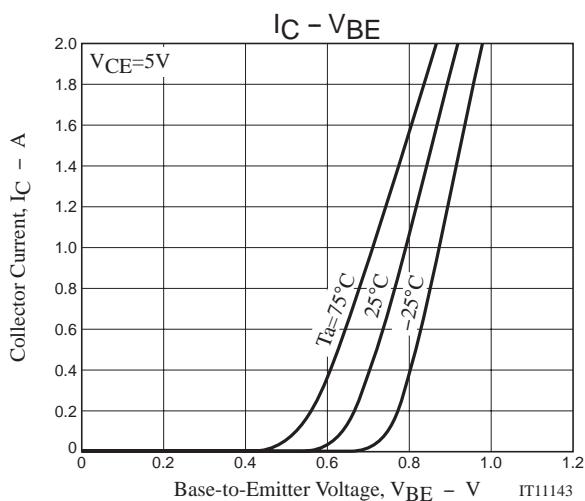
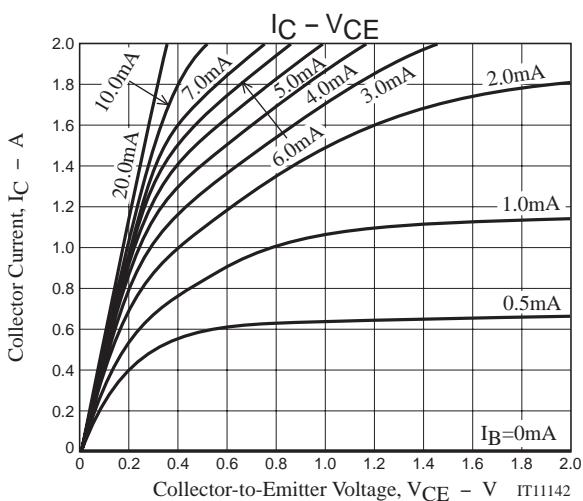
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Switching Time Test Circuit

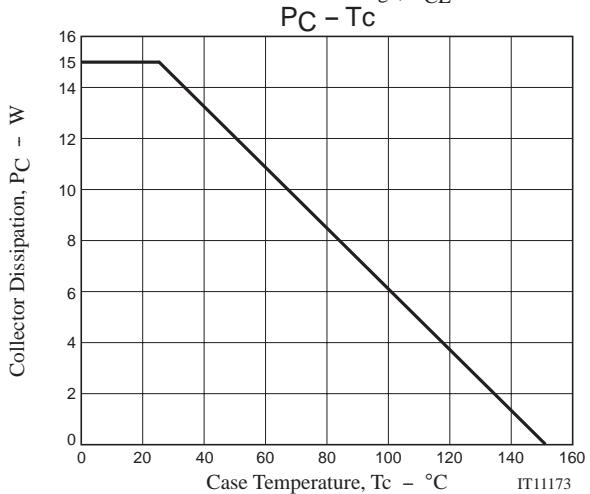
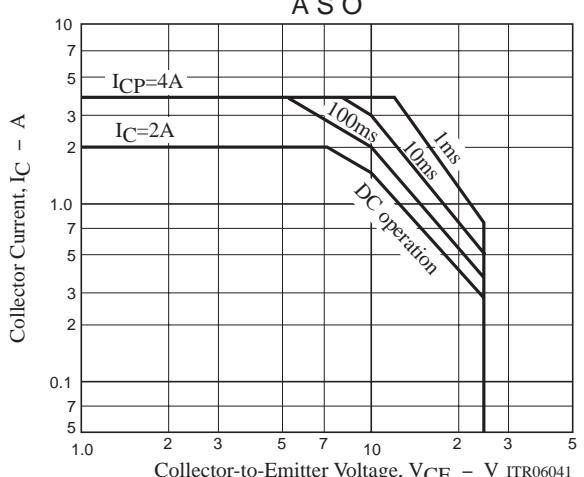
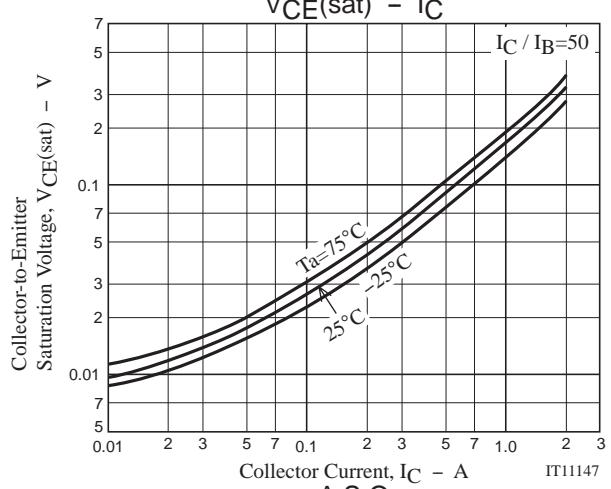
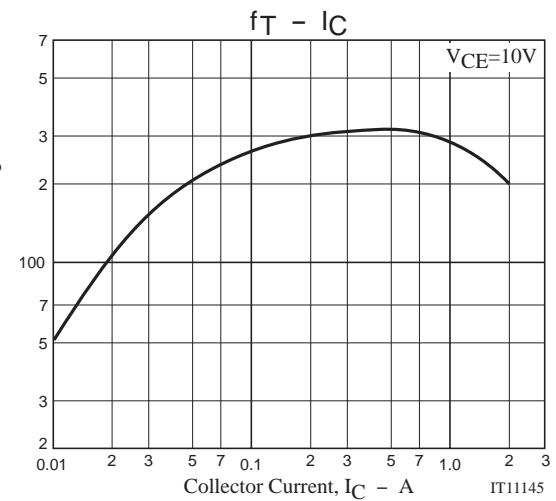
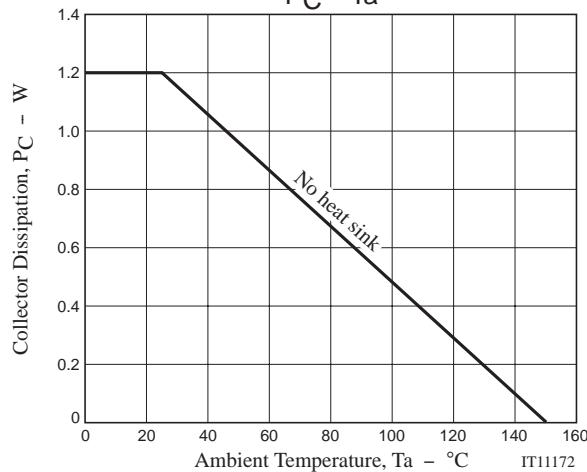
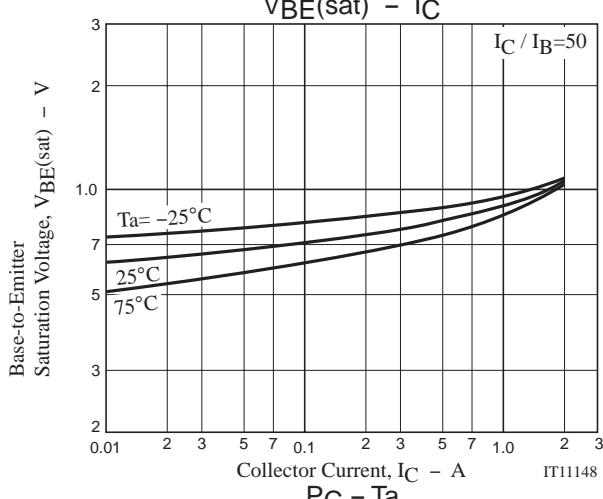
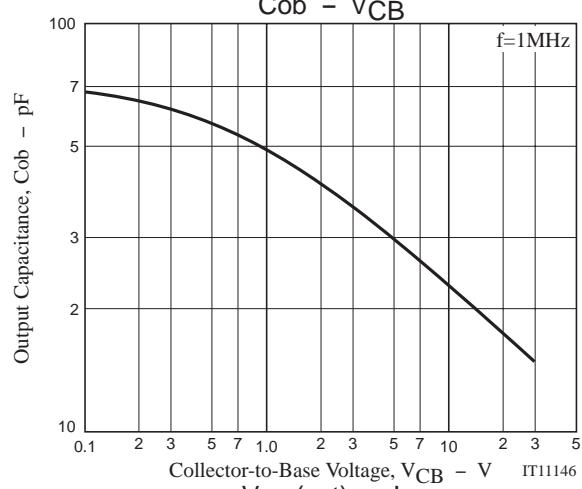
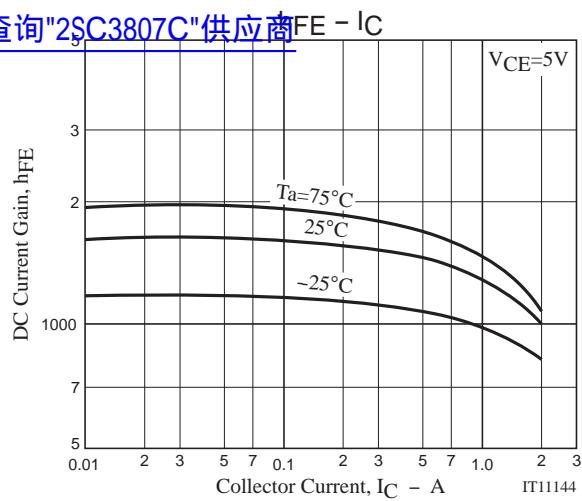


$$7I_B1 = -7I_B2 = I_C = 700\text{mA}$$



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