NPN Epitaxial Planar Silicon Transistor

2SC3807



High h_{FE}, Low-Frequency General-Purpose Amplifier Applications

Applications

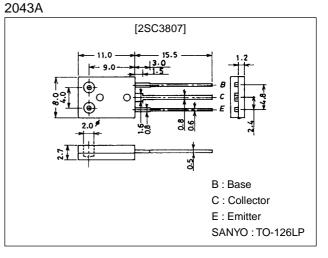
· Low frequency general-purpose amplifiers, drivers.

Features

- · Large current capacity ($I_C=2A$).
- · Adoption of MBIT process.
- High DC current gain (h_{FE} =800 to 3200).
- · Low collector-to-emitter saturation voltage
- $(V_{CE(sat)} \leq 0.5V).$
- · High V_{EBO} ($V_{EBO} \ge 15V$).

Package Dimensions

unit:mm



Specifications

Absolute Maximum Ratings at Ta = 25°C

-				
Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V _{CBO}		30	V
Collector-to-Emitter Voltage	VCEO		25	V
Emitter-to-Base Voltage	VEBO		15	V
Collector Current	IC		2	Α
Collector Current (Pulse)	I _{CP}		4	A
Collector Dissipation	PC		1.2	W
		Tc=25°C	15	W
Junction Temperature	Tj		150	°C
Storage Temperature	Tstg		-55 to +150	°C

Electrical Characteristics at Ta = 25°C

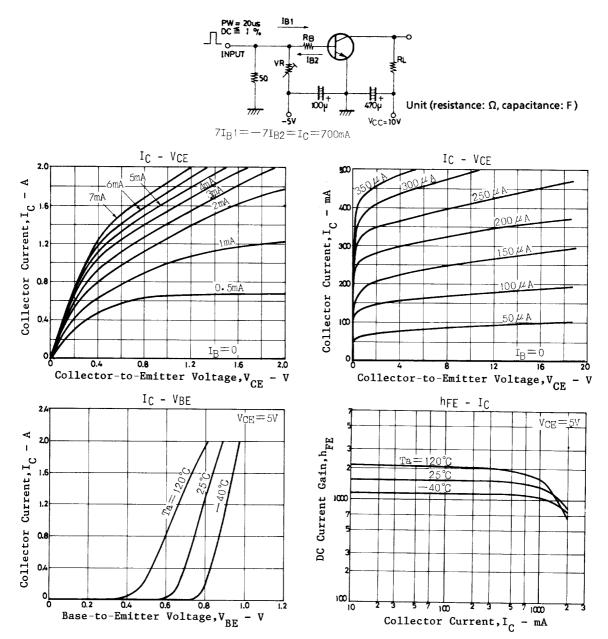
Parameter	Symbol	Conditions	Ratings			Unit
i alameter			min	typ	max	Onit
Collector Cutoff Current	ICBO	V _{CB} =20V, I _E =0			0.1	μA
Emitter Cutoff Current	IEBO	V _{EB} =10V, I _C =0			0.1	μA
DC Current Gain	h _{FE} 1	$V_{CE}=5V, I_{C}=500$ mA	800	1500	3200	
De current Gain	h _{FE} 2	V _{CE} =5V, I _C =1A	600			
Gain-Bandwidth Product	fT	V _{CE} =10V, I _C =50mA		260		MHz
Output Capacitance	Cob	V _{CB} =10V, f=1MHz		27		pF

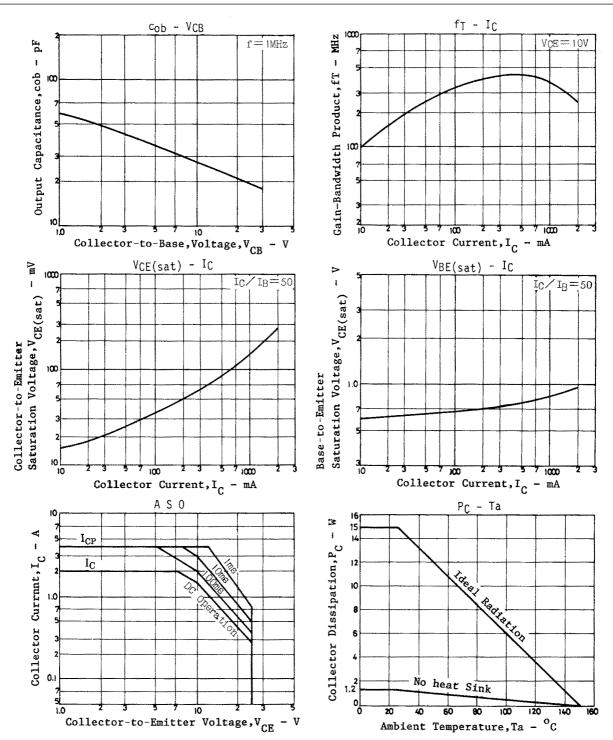
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	Unit
Collector-to-Emitter Saturation Voltage	VCE(sat)	I _C =1A, I _B =20mA		0.15	0.5	V
Base-to-Emitter Saturation Voltage	V _{BE(sat)}	I _C =1A, I _B =20mA		0.85	1.2	V
Collector-to-Base Breakdown Voltage	V _(BR) CBO	I _C =10µA, I _E =0	30			V
Collector-to-Emitter Breakdown Voltage	V(BR)CEO	I _C =1mA, R _{BE} =∞	25			V
Emitter-to-Base Breakdown Voltage	V(BR)EBO	I _E =10μA, I _C =0	15			V
Turn-ON Time	ton	See specified test circuit.		0.14		μs
Storage Time	tstg	See specified test circuit.		1.35		μs
Fall Time	t _f	See specified test circuit.		0.1		μs

Switching Time Test Circuit





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