2SC3835

Pb Free Plating Product

70 Watt NPN Triple Diffused Planar Silicon Transistor

DESCRIPTION

- Low Collector Saturation Voltage
  : $V_{CE(sat)}$= 0.5V(Max)@ I_C=3A
- Collector-Emitter Breakdown Voltage-
  : $V_{(BR)CEO}$= 120V (Min)
- Good Linearity of h_{FE}
- Humidifier,DC-DC converter and general purpose.

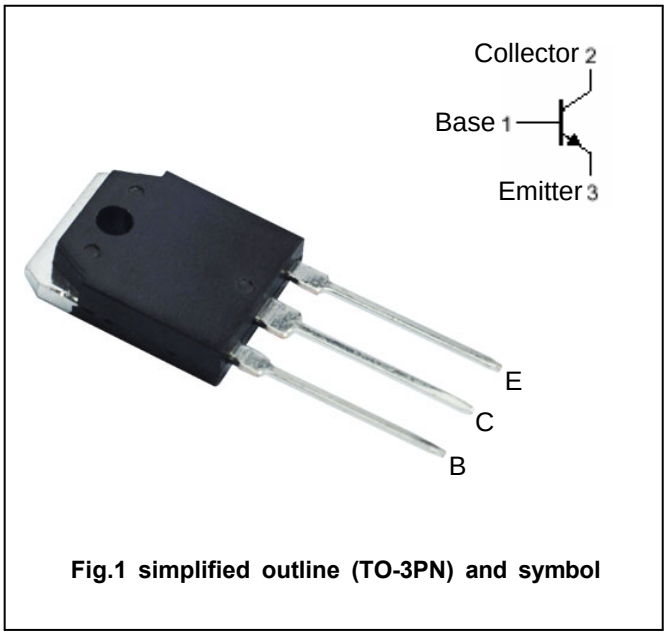


Fig.1 simplified outline (TO-3PN) and symbol

PINNING

PIN	DESCRIPTION
1	Base
2	Collector;connected to mounting base
3	Emitter

ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

PARAMETER	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CBO}	200	V
Collector-Emitter Voltage	V_{CEO}	120	V
Emitter-Base Voltage	V_{EBO}	8	V
Base Current	I_B	3	A
Collector Current	Ic	7	A
Collector Current (PULSE)		14	A
Collector Power Dissipation(Tc=25°C)	Pc	70	W
Junction Temperature	T_j	150	°C
Storage Temperature	T_{STG}	-55 ~ +150	°C

ELECTRICAL CHARACTERISTICS (Ta=25°C,unless otherwise specified)

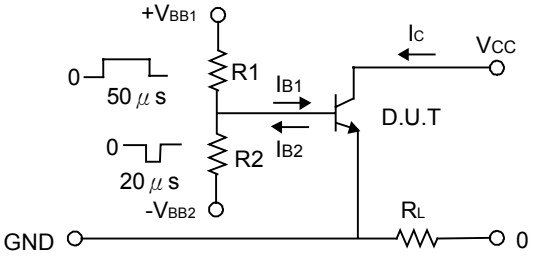
PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector Emitter Breakdown Voltage	BV_{CEO}	Ic= 50mA	120			V
Collector Cut-Off Current	I_{CBO}	V_{CB}=200V, I_E=0			100	μA
Emitter Cut-Off Current	I_{EBO}	V_{EB}= 8V, Ic =0			100	μA
DC Current Transfer Ratio	h_{FE}	V_{CE}= 4V,Ic= 3A	70		220	
Collector-Emitter Saturation Voltage	V_{CE}(sat)	Ic=3A ,I_B=0.3A			0.5	V
Base-Emitter Saturation Voltage	V_{BE}(sat)	Ic=3A ,I_B=0.3A			1.2	V
Transition Frequency	f_T	V_{CE}=12V,I_E=-0.5mA		30		MHz
Output Capacitance	Cob	V_{CB}= 10V, I_E= 0 A,f=1MHz		110		pF
Turn-on Time	ton	See specified Test Circuit			0.5	μs
Storage Time	tstg				3.0	μs
Fall Time	tf				0.5	μs

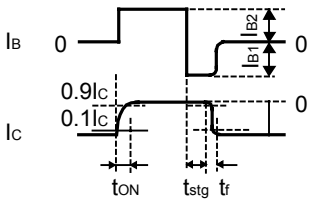
CLASSIFICATION of hFE

RANK	A	B	C
RANGE	70-130	120-170	160-220

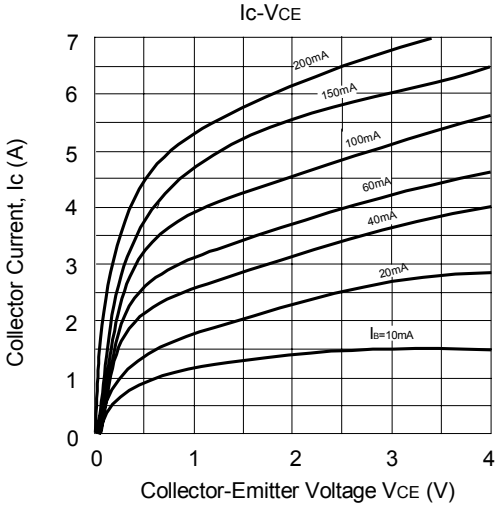
Typical Switching Characteristics(Common Emitter)

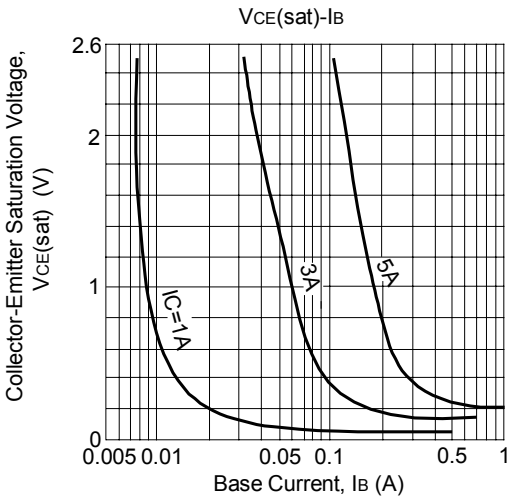
Vcc (V)	RL (Ω)	Ic (A)	VBB1 (V)	VBB2 (V)	IB1 (A)	IB2 (A)
50	16.7	3	10	-5	0.3	-0.6



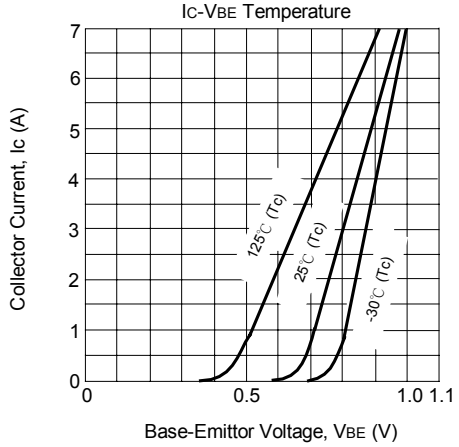


ELECTRICAL CHARACTERISTICS CURVES

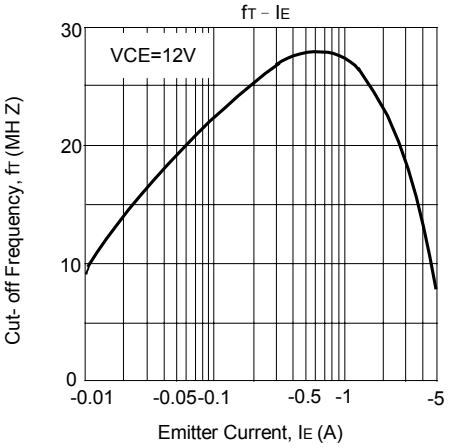




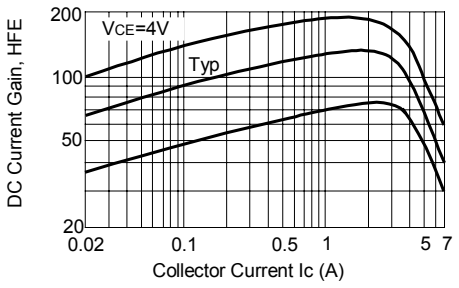
IC-VBE Temperature



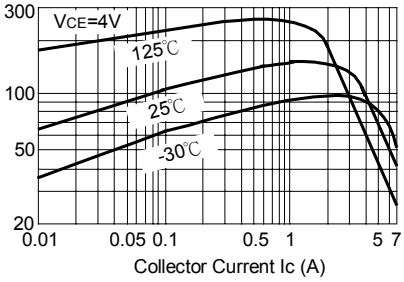
fT - IE



HFE-Ic



HFE-Ic Temperature



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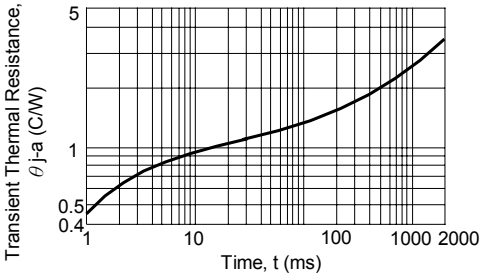
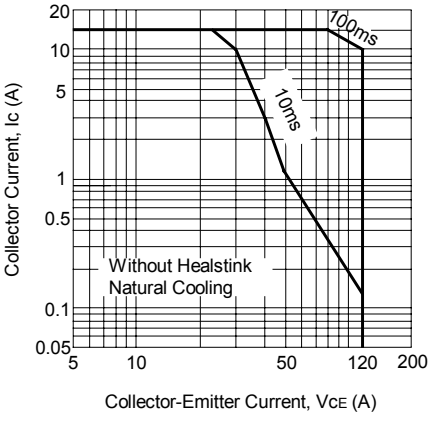


Safe Operating Area (Single Pulse)



Pc - Ta Derating