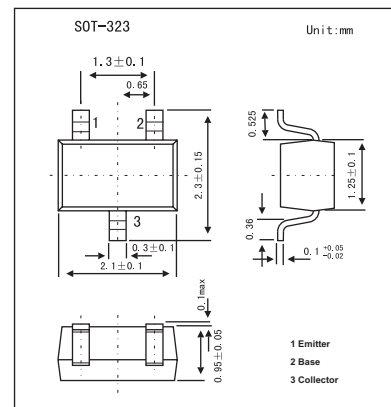


NPN Epitaxial Planar Silicon Transistors

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■ Features

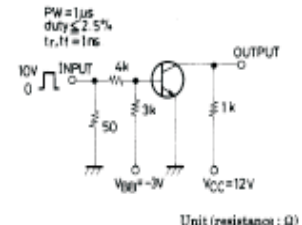
- Adoption of MBIT process.
- High DC current gain.
- High V_{EBO} ($V_{EBO} \geq 25V$).
- High reverse h_{FE} (150 typ).
- Small ON resistance [$R_{on}=1\Omega$ ($I_B=5mA$)].

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

Parameter	Symbol	Rating	Unit
Collector-base voltage	V_{CBO}	50	V
Collector-emitter voltage	V_{CEO}	20	V
Emitter-base voltage	V_{EBO}	25	V
Collector current	I_C	500	mA
Collector current (pulse)	I_{CP}	800	mA
Base current	I_B	100	mA
Collector dissipation	P_C	150	mW
Junction temperature	T_j	150	$^\circ C$
Storage temperature	T_{stg}	-55 to +150	$^\circ C$

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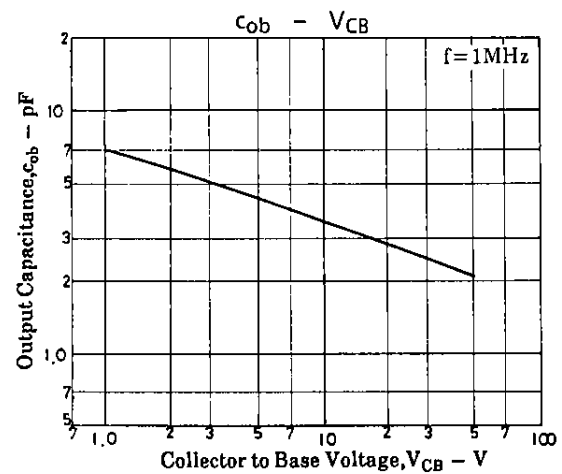
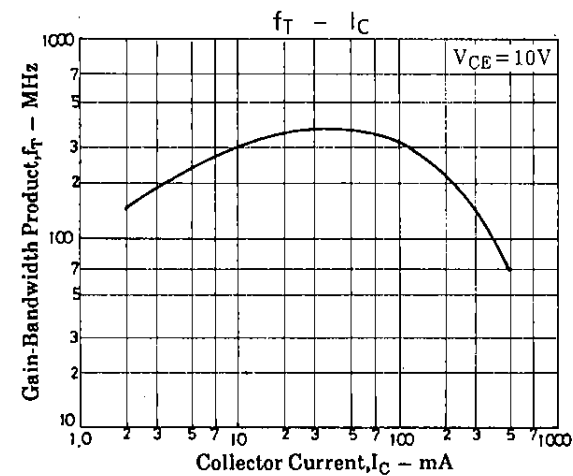
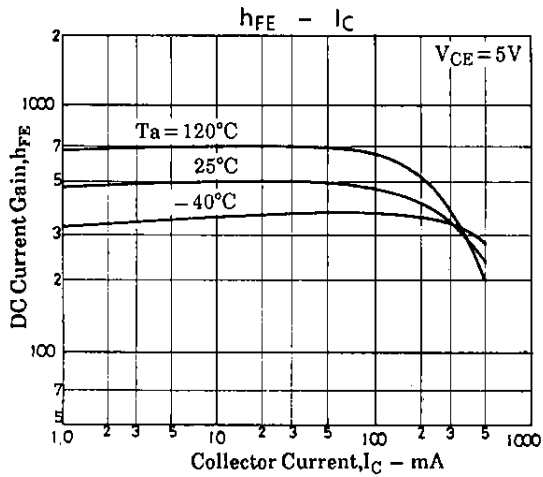
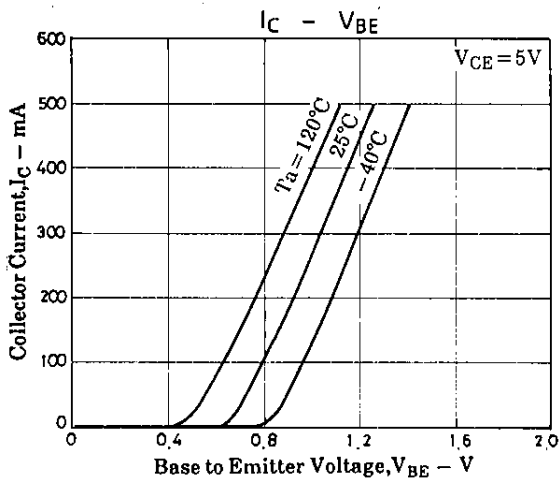
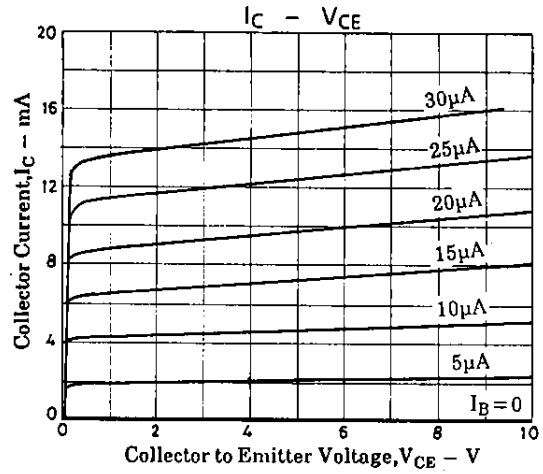
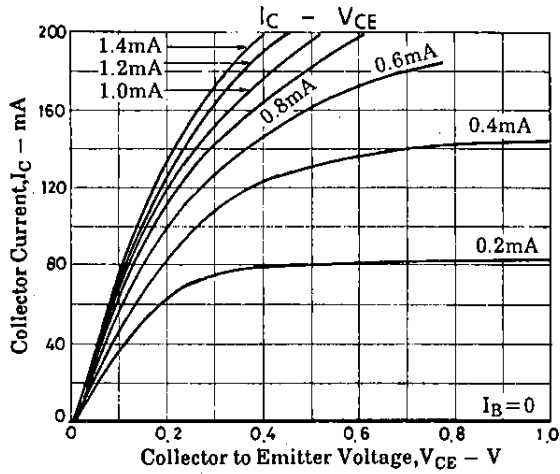
■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit	
Collector cutoff current	IcBO	V _{CB} = 40V , I _E = 0			0.1	μA	
Emitter cutoff current	I _{EBO}	V _{EB} = 20V , I _C = 0			0.1	μA	
DC current Gain	h _{FE}	V _{CE} = 5V , I _C = 10mA	300		1200		
Gain bandwidth product	f _T	V _{CE} = 10V , I _C = 10mA		250		MHz	
Common base output capacitance	C _{ob}	V _{CB} = 10V , f = 1MHz		3.6		pF	
Collector-to-emitter saturation voltage	V _{CE(sat)}	I _C = 100mA , I _B = 2mA		0.12	0.5	V	
Base-to-emitter saturation voltage	V _{BE(sat)}	I _C = 100mA , I _B = 2mA		0.85	1.2	V	
Collector-to-base breakdown voltage	V _{(BR)CBO}	I _C = -10μA , I _E = 0	50			V	
Collector-to-emitter breakdown voltage	V _{(BR)CEO}	I _C = -1mA , R _{BE} = ∞	20			V	
Emitter-to-base breakdown voltage	V _{(BR)EBO}	I _E = -10μA , I _C = 0	25			V	
Turn-on time	ton			135		ns	
Storage time	tstg				450		ns
Fall time	tf				100		ns

■ Marking

Marking	WT
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