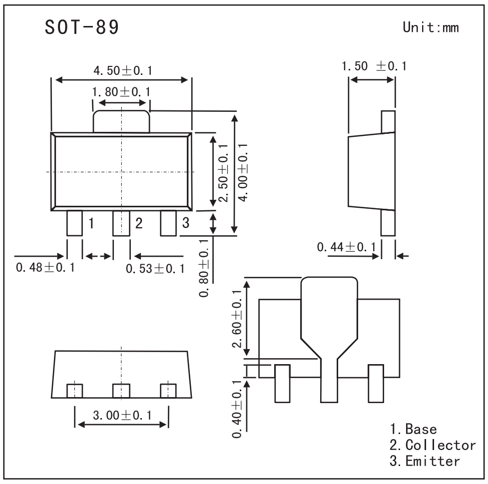
NPN Epitaxial Planar Silicon Transistor

2SD1997



Features

- Contains diode between collector and emitter.
- Low saturation voltage.
- Large current capacity.
- Small-sized package making it easy to provide highdensity, small-sized hybrid ICs.

Absolute Maximum Ratings Ta = 25℃

Parameter	Symbol	Rating	Unit
Collector-base voltage	V_{CBO}	40	V
Collector-emitter voltage	V_{CEO}	30	V
Emitter-base voltage	V_{EBO}	6	V
Collector current	I_C	3	A
Collector current (pulse)	I_{CP}	5	A
Collector dissipation	P_C	1.5	W
Jumction temperature	T_j	150	℃
Storage temperature	T_{stg}	-55 to +150	℃

Electrical Characteristics Ta = 25℃

Parameter	Symbol	Testconditons	Min	Typ	Max	Unit
Collector cutoff current	I_{CBO}	V_{CB} = 30V , I_E = 0			1.0	μA
DC current Gain	h_{FE}	V_{CE} = 2V , I_C = 0.5A	70			
		V_{CE} = 2V , I_C =2A	50			
Gain bandwidth product	f_T	V_{CE} = 2V , I_C = 0.5A		100		MHz
Output capacitance	C_{ob}	V_{CB} = 10V , f = 1MHz		40		pF
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C = 1A , I_B = 50mA		0.12	0.3	V
Base-emitter on state voltage	$V_{BE(ON)}$	I_{CE} = 2V , I_C = 1A	1	2	5	V
Collector-to-base breakdown voltage	$V_{(BR)CBO}$	I_C = 10μA , I_E = 0	40			V
Collector-to-emitter breakdown voltage	$V_{(BR)CEO}$	I_C = 10μA , R_{BE} = ∞	40			V
		I_C = 10mA , R_{BE} = ∞	3			
Diode forward voltage	V_F	I_F = 0.5A			1.5	V
Base-emitter resistance	R_{BE}			0.8		kΩ
Base resistance	R1		120	160	200	Ω

Marking

Marking	DO