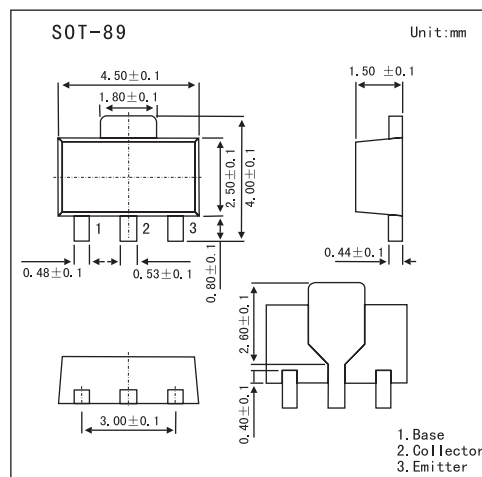


2SD1999

■ Features

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



■ Absolute Maximum Ratings Ta = 25°C

Parameter	Symbol	Rating	Unit
Collector-base voltage	V _{CB0}	25	V
Collector-emitter voltage	V _{CEO}	20	V
Emitter-base voltage	V _{EBO}	6	V
Collector current	I _C	4	A
Collector current (pulse)	I _{CP}	6	A
Collector dissipation	P _C	1.5	W
Jumction temperature	T _J	150	°C
Storage temperature	T _{stg}	-55 to +150	°C

■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Testconditons	Min	Typ	Max	Unit
Collector cutoff current	I _{cBO}	V _{CB} = 20V , I _E = 0			1.0	μA
DC current Gain	h _{FE}	V _{CE} = 2V , I _C = 0.5A	70			
		V _{CE} = 2V , I _C = 3A	50			
Gain bandwidth product	f _T	V _{CE} = 2V , I _C = 0.5A		200		MHz
Output capacitance	C _{ob}	V _{CB} = 10V , f = 1MHz		45		pF
Collector-emitter saturation voltage	V _{CE(sat)}	I _C = 3A , I _B = 150mA		0.25	0.5	V
Base-emitter saturation voltage	V _{BE(sat)}	I _C = 3V , I _B = 150mA			1.5	V
Collector-to-base breakdown voltage	V _{(BR)CBO}	I _C = 10μA , I _E = 0	25			V
Collector-to-emitter breakdown voltage	V _{(BR)CEO}	I _C = 10μA , R _{BE} = ∞	25			V
		I _C = 10mA , R _{BE} = ∞	20			
Diode forward voltage	V _F	I _F = 0.5A			1.5	V
Base-emitter resistance	R _{BE}			1.5		kΩ

■ Marking

Marking	DN
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