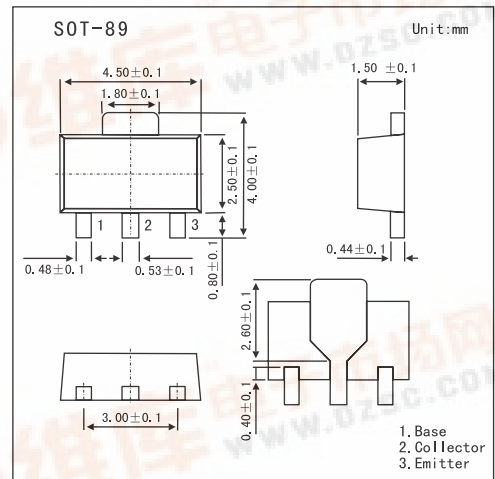


SMD Type Transistors

NPN Epitaxial Planar Silicon Transistor
2SD2099

Features

- Contains input resistance (R₁), base-to-emitter resistance (R_{BE}).
- 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°C

Parameter	Symbol	Rating	Unit
Collector-base voltage	V _{CB0}	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	°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} = 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)}	V _{CE} = 2V , I _C = 1A	0.7	1.5	4.0	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} = ∞	30			
Diode forward voltage	V _F	I _F = 0.5A			1.5	V
Base-emitter resistance	R _{BE}			0.8		kΩ
Base resistance	R ₁		60	90	120	Ω

Marking

