

Silicon PNP Epitaxial Planar Type

2SB935

■ Features

- Low collector-emitter saturation voltage $V_{CE(sat)}$.
- High-speed switching.

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

Parameter	Symbol	Rating	Unit
Collector-base voltage	V_{CB0}	-40	V
Collector-emitter voltage	V_{CEO}	-20	V
Emitter-base voltage	V_{EB0}	-5	V
Collector current	I_C	-10	A
Peak collector current	I_{CP}	-15	A
Collector power dissipation	P_C	1.3	W
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

■ Electrical Characteristics $T_a = 25^\circ\text{C}$

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Collector-base cutoff current	I_{CB0}	$V_{CB} = -40\text{ V}, I_E = 0$			-50	μA
Emitter-base cutoff current	I_{EB0}	$V_{EB} = -5\text{ V}, I_C = 0$			-50	μA
Collector-emitter voltage	V_{CEO}	$I_C = -10\text{ mA}, I_B = 0$	-20			V
Forward current transfer ratio	h_{FE}	$V_{CE} = -2\text{ V}, I_C = -2\text{ A}$	90		260	V
		$V_{CE} = -2\text{ V}, I_C = -0.1\text{ A}$	45			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -7\text{ A}, I_B = -0.23\text{ A}$			-1.5	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = -7\text{ A}, I_B = -0.23\text{ A}$			-0.6	V
Transition frequency	f_T	$V_{CE} = -10\text{ V}, I_E = -0.5\text{ A}, f = 10\text{ MHz}$		150		MHz
Collector output capacitance	C_{ob}	$V_{CB} = -10\text{ V}, I_E = 0, f = 1.0\text{ MHz}$		200		pF
Turn-on time	t_{on}	$I_C = -2\text{ A}, I_{B1} = -66\text{ mA}, I_{B2} = 66\text{ mA}$		0.1		μs
Storage time	t_{stg}			0.5		μs
Fall time	t_f			0.1		μs

■ h_{FE} Classification

Rank	Q	P
h_{FE}	90~180	130~260