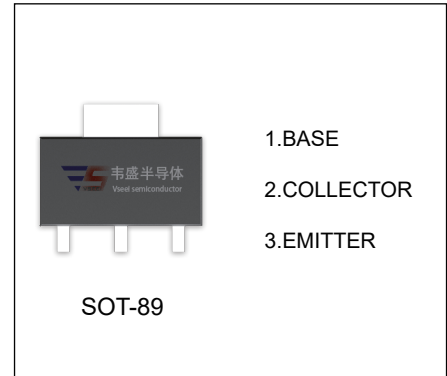


VS303PL TRANSISTOR (PNP)

FEATURES

- Small Flat Package
- High DC Current Gain
- Ultra Low Collector-Emitter Saturation Voltage



MAXIMUM RATINGS ($T_a=25^{\circ}\text{C}$ unless otherwise noted)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	-30	V
V_{CEO}	Collector-Emitter Voltage	-30	V
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current	-3	A
P_C	Collector Power Dissipation	500	mW
$R_{\theta JA}$	Thermal Resistance From Junction To Ambient	250	$^{\circ}\text{C/W}$
T_J, T_{stg}	Operation Junction and Storage Temperature Range	-55~+150	$^{\circ}\text{C}$

ELECTRICAL CHARACTERISTICS ($T_a=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C = -0.1\text{mA}, I_E = 0$	-30			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = -10\text{mA}, I_B = 0$	-30			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = -0.1\text{mA}, I_C = 0$	-5			V
Collector cut-off current	I_{CBO}	$V_{CB} = -35\text{V}, I_E = 0$			-100	nA
Collector cut-off current	I_{CES}	$V_{CES} = -35\text{V}$			-100	nA
Emitter cut-off current	I_{EBO}	$V_{EB} = -4\text{V}, I_C = 0$			-100	nA
DC current gain	h_{FE}^*	$V_{CE} = -1.5\text{V}, I_C = -1\text{A}$	100			
		$V_{CE} = -1.5\text{V}, I_C = -1.5\text{A}$	100		400	
		$V_{CE} = -3\text{V}, I_C = -2\text{A}$	100			
Collector-emitter saturation voltage	$V_{CE(sat)}^*$	$I_C = -0.8\text{A}, I_B = -26\text{mA}$			-0.15	V
		$I_C = -1.2\text{A}, I_B = -40\text{mA}$			-0.2	V
		$I_C = -2\text{A}, I_B = -66.6\text{mA}$			-0.25	V
		$I_C = -3\text{A}, I_B = -100\text{mA}$			-0.4	V
Base-emitter saturation voltage	$V_{BE(sat)}^*$	$I_C = -1.2\text{A}, I_B = -40\text{mA}$			-1	V
		$I_C = -3\text{A}, I_B = -100\text{mA}$			-1.2	V
Base-emitter voltage	V_{BE}^*	$V_{CE} = -3\text{V}, I_C = -2\text{A}$			-1	V

Transition frequency	f_T	$V_{CE}=-5V, I_C=-100mA,$ $f=100MHz$	100	MHz
Collector input capacitance	C_{ib}	$V_{EB}=-0.5V, I_C=0, f=1MHz$		650 pF
Collector output capacitance	C_{ob}	$V_{CB}=-3V, I_E=0, f=1MHz$		100 pF
Turn on time	t_{on}	$V_{CC}=-10V, I_C=-1A, I_{B1}=-100mA, R_L=3\Omega$	35	ns
Turn off time	t_{off}	$V_{CC}=-10V, I_C=1A, I_{B1}=I_{B2}=-100mA, R_L=3\Omega$	225	ns

*Pulse width=300μs, Duty cycle<2%.