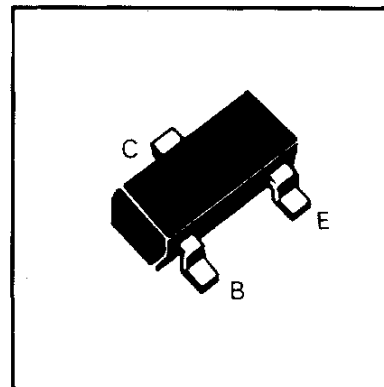


SOT23 NPN SILICON PLANAR HIGH SPEED SWITCHING TRANSISTOR

BSV52

PARTMARKING DETAILS:

BSV52 - B2
BSV52R - B4



ABSOLUTE MAXIMUM RATINGS

PARAMETER	SYMBOL	VALUE	UNIT
Collector-Base Voltage	V_{CBO}	20	V
Collector-Emitter Voltage	V_{CES}	20	V
Collector-Emitter Voltage	V_{CEO}	12	V
Emitter-Base Voltage	V_{EBO}	5	V
Peak Pulse Current	I_{CM}	200	mA
Continuous Collector Current	I_C	100	mA
Power Dissipation at $T_{amb} = 25^\circ\text{C}$	P_{TOT}	330	mW
Operating and Storage Temperature Range	tj:tstg	55 to +150	$^\circ\text{C}$

ELECTRICAL CHARACTERISTICS (at $T_{amb} = 25^\circ\text{C}$ unless otherwise stated)

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS
Collector-Base Cut-Off Current	I_{CBO}			100 5.0	nA μA	$I_E = 0, V_{CB} = 10\text{V}$ $I_E = 0, V_{CB} = 10\text{V},$ $T_j = 125^\circ\text{C}$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$			300 250 400	mV mV mV	$I_C = 10\text{mA}, I_B = 0.3\text{mA}$ $I_C = 10\text{mA}, I_B = 1.0\text{mA}$ $I_C = 50\text{mA}, I_B = 5.0\text{mA}$
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	700		850 1.2	mV V	$I_C = 10\text{mA}, I_B = 1.0\text{mA}$ $I_C = 50\text{mA}, I_B = 5.0\text{mA}$
Static Forward Current Transfer Ratio	h_{FE}	25 40 25		120		$I_C = 1.0\text{mA}, V_{CE} = 1.0\text{V}$ $I_C = 10\text{mA}, V_{CE} = 1.0\text{V}$ $I_C = 50\text{mA}, V_{CE} = 1.0\text{V}$
Transition Frequency	f_T	400	500		MHz	$I_C = 10\text{mA}, V_{CE} = 10\text{V}$ $f = 100\text{MHz}$
Collector Capacitance	C_{TC}			4.0	pF	$I_E = I_e = 0, V_{CB} = 5.0\text{V}$ $f = 1.0\text{MHz}$
Emitter Capacitance	C_{Te}			4.5	pF	$I_C = I_c = 0, V_{EB} = 1.0\text{V}$ $f = 1.0\text{MHz}$
Turn-On Time	T_{on}			12	ns	$V_{CC} = 3\text{V}, V_{BE(off)} = 1.5\text{V}$ $I_C = 10\text{mA}, I_{B1} = 3\text{mA}$ (see Fig. 1)
Turn-Off Time	T_{off}			18	ns	$V_{CC} = 3\text{V}, I_C = 10\text{mA},$ $I_{B1} = 3\text{mA}$ $I_{B2} = 1.5\text{mA}$ (see Fig. 2)
Storage Time	t_s			13	ns	$I_{B1} = I_{B2} = I_C = 10\text{mA}$ (see Fig. 3)

For Switching Time Circuit see page DS201