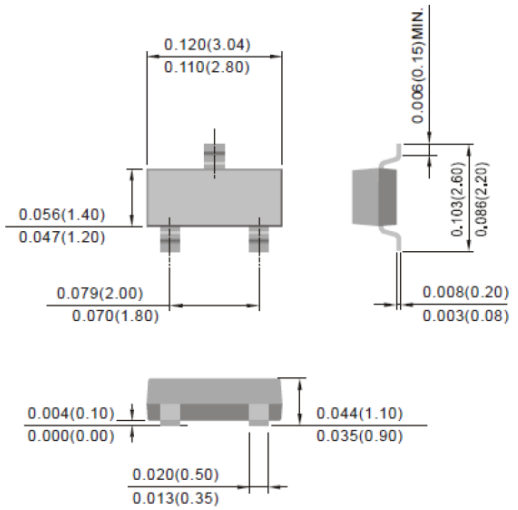
PBHV8050SA

Silicon NPN Triple Diffuse High Voltage Transistor

Voltage	500V	Current	150mA

SOT-23 Unit: inch(mm)



Features

- Silicon NPN Triple diffuse type
- Excellent DC current gain characteristics
- Low Saturation Voltage
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 standard

Mechanical Data

- Case: SOT-23 Package
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 0.0003 ounces, 0.0084grams

Maximum Ratings and Thermal Characteristics (T_A=25°C unless otherwise noted)

PARAMETER	SYMBOL	LIMIT	UNITS
Collector-Base Voltage	V_{CBO}	500	V
Collector-Emitter Voltage	V_{CEO}	500	V
Emitter-Base Voltage	V_{EBO}	5	V
Collector Current (DC)	I_C	150	mA
Collector Current (Pulse)	I_{CP}	500	mA
Total Power Dissipation	P_{TOTAL}	0.5	W
Operating Junction and Storage Temperature Range	T_J,T_{STG}	-55~150	°C
Typical Thermal Resistance from Junction to Ambient (Note)	$R_{\theta JA}$	250	°C/W

Note: Mounted on a 1 inch FR-4 with 2oz. square pad of copper.

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Electrical Characteristics (T_A=25°C unless otherwise noted)

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNITS
OFF Characteristics						
Collector-Emitter Breakdown Voltage	BV_{CEO}	I_C= 10mA, I_B= 0A	500	-	-	V
Collector-Base Breakdown Voltage	BV_{CBO}	I_C= 0.1mA, I_E= 0A	500	-	-	V
Emitter-Base Breakdown Voltage	BV_{EBO}	I_E= 0.1mA, I_C= 0A	5	-	-	V
Collector-Base Cutoff Current	I_{CBO}	V_{CB}= 500V, I_E= 0A	-	-	100	nA
Emitter-Base Cutoff Current	I_{EBO}	V_{EB}= 5V	-	-	100	nA
Collector-Emitter Cutoff Current	I_{CES}	V_{CES}= 500V	-	-	100	nA
ON characteristics						
DC Current Gain	h_{FE}	V_{CE}= 10V I_C= 1mA	150	-	300	-
		V_{CE}= 10V I_C= 50mA	80	-	300	
		V_{CE}= 10V I_C= 100mA	-	15	-	
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$	I_C= 20mA, I_B= 2mA	-	-	0.2	V
		I_C= 50mA, I_B= 10mA	-	-	0.5	
Base-Emitter Saturation voltage	$V_{BE(SAT)}$	I_C= 50mA, I_B= 10mA	-	-	0.9	V
Base-Emitter Turn-on voltage	$V_{BE(on)}$	I_C= 50mA, V_{CE}= 10V	-	-	0.9	
Transition Frequency	f_T	I_C= -10mA, V_{CE}= 20V	-	50	-	MHz
Collector Output Capacitance	C_{OB}	V_{CB}= 20V, f=1MHz	-	-	8	pF
Turn On Time	t_{ON}	V_{CE}= 100V, I_C= 50mA	-	110	-	nS
Turn Off Time	t_{OFF}	I_{B1}= 5mA, I_{B2}= -10mA	-	1500		nS

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TYPICAL CHARACTERISTIC CURVES

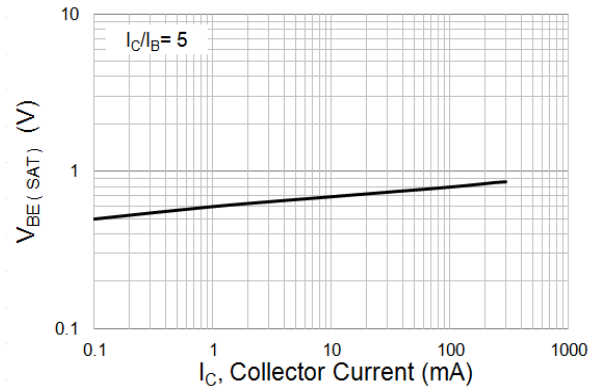

Fig.1 Typical Base-Emitter Saturation Voltage

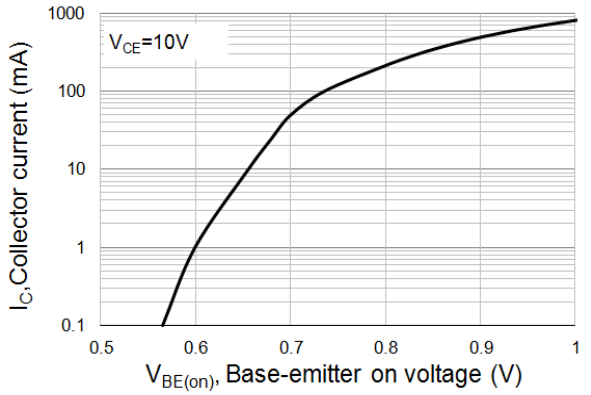

Fig.2 Typical Base-Emitter Turn-on Voltage

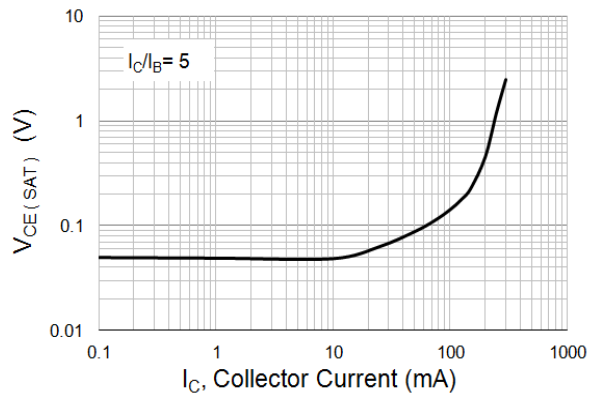

Fig.3 Typical Collector-Emitter Saturation

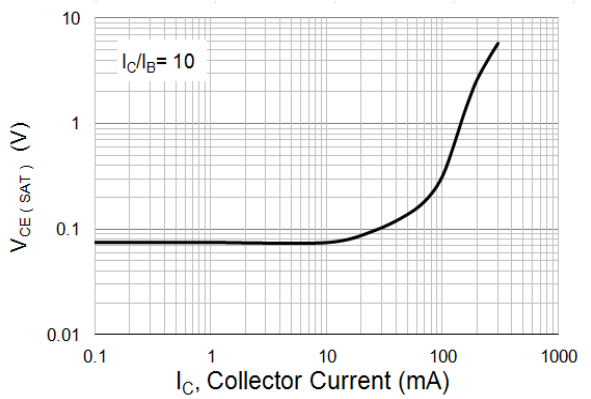

Fig.4 Typical Collector-Emitter Saturation

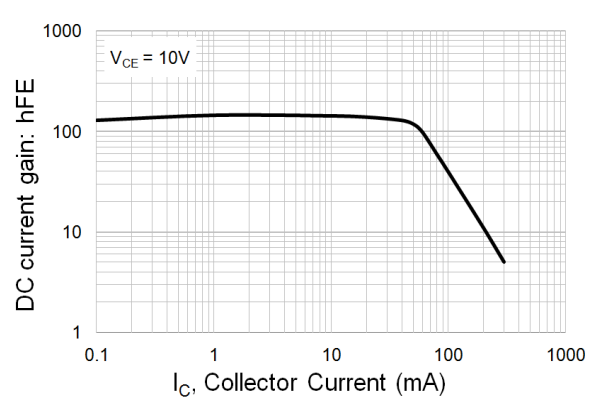

Fig.5 Typical DC Current Gain vs Collector Current

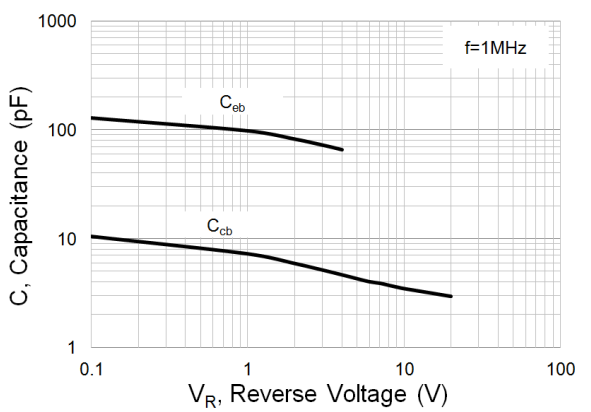

Fig.6 Typical Capacitance

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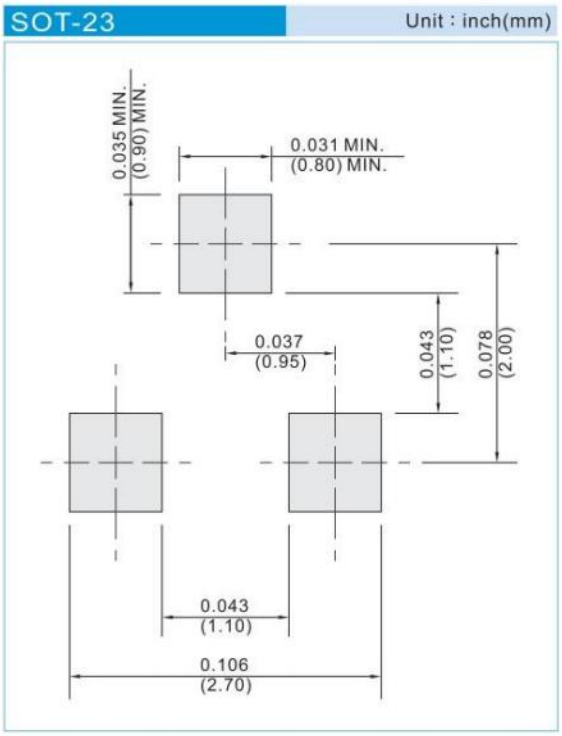
PART NO PACKING CODE VERSION

Part No Packing Code	Package Type	Packing Type	Marking	Version
PBHV8050SA_R1_00001	SOT-23	3K pcs / 7” reel	C1A	Halogen free

MOUNTING PAD LAYOUT



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