



2SB1427W6

PNP Low Vce(sat) Transistor

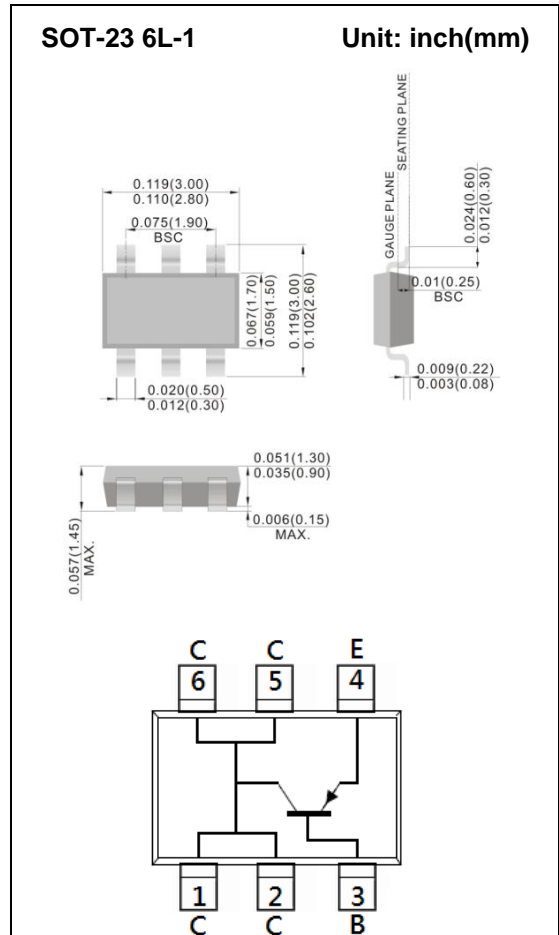
Voltage	20V	Current	3A
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Features

- Silicon PNP epitaxial type
- Low Vce(sat) -0.2V(max)@Ic/Ib=-1.6A/-53mA
- High collector current capability
- Excellent DC current gain characteristics
- Lead free in compliance with EU RoHS 2011/65/EU directive.
- Green molding compound as per IEC61249 Std. (Halogen Free)

Mechanical Data

- Case: SOT-23 6L-1 Package
- Terminals : Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 0.0005 ounces, 0.014 grams
- Marking: B27



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

PARAMETER	SYMBOL	LIMIT	UNITS
Collector-Base Voltage	V _{CB0}	-20	V
Collector-Emitter Voltage	V _{CEO}	-20	V
Emitter-Base Voltage	V _{EBO}	-7	V
Collector Current (DC)	I _C	-3	A
Collector Current (Pulse)	I _{CP}	-5	A
Base Current	I _B	-0.3	A
Collector Power Dissipation	P _D	1.2	W
Operating Junction and Storage Temperature Range	T _J , T _{STG}	-55~150	°C
Typical Thermal Resistance from Junction to Ambient ^(Note)	R _{θJA}	104	°C/W

Note: Mounted on FR4 PCB at 1 inch square copper pad.



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Electrical Characteristics ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNITS
OFF Characteristics						
Collector-Emitter Breakdown Voltage	BV_{CEO}	$I_C = -10\text{mA}, I_B = 0\text{A}$	-20	-30	-	V
Collector-Base Breakdown Voltage	BV_{CBO}	$I_C = -0.1\text{mA}, I_E = 0\text{A}$	-20	-50	-	V
Emitter-Base Breakdown Voltage	BV_{EBO}	$I_E = -0.1\text{mA}, I_C = 0\text{A}$	-7	-	-	V
Collector Cutoff Current	I_{CBO}	$V_{CB} = -20\text{V}, I_E = 0\text{A}$	-	-	-100	nA
Emitter Cutoff Current	I_{EBO}	$V_{EB} = -7\text{V}, I_C = 0\text{A}$	-	-	-100	nA
ON characteristics						
DC Current Gain (Note1)	h_{FE}	$V_{CE} = -2\text{V}, I_C = -0.1\text{mA}$	200	-	500	-
		$V_{CE} = -2\text{V}, I_C = -0.5\text{A}$	200	-	500	-
		$V_{CE} = -2\text{V}, I_C = -1.6\text{A}$	100	-	-	-
Collector-Emitter Saturation Voltage (Note1)	$V_{CE(SAT)}$	$I_C = -0.5\text{A}, I_B = -50\text{mA}$	-	-	-100	mV
		$I_C = -1.6\text{A}, I_B = -53\text{mA}$	-	-	-200	
Base-Emitter Saturation voltage (Note1)	$V_{BE(SAT)}$	$I_C = -0.5\text{A}, I_B = -50\text{mA}$	-	-	-1.0	V
		$I_C = -1.6\text{A}, I_B = -53\text{mA}$	-	-	-1.1	
Transition Frequency	f_T	$V_{CE} = -2\text{V}, I_E = 0.5\text{A}$	-	160	-	MHz
Collector Output Capacitance	C_{OB}	$V_{CB} = -10\text{V}, I_E = 0\text{A},$ $f = 1\text{MHz}$	-	40	-	pF

Note: 1. Pulse width $\leq 300\mu\text{s}$, Duty cycle $\leq 2\%$



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TYPICAL CHARACTERISTIC CURVES

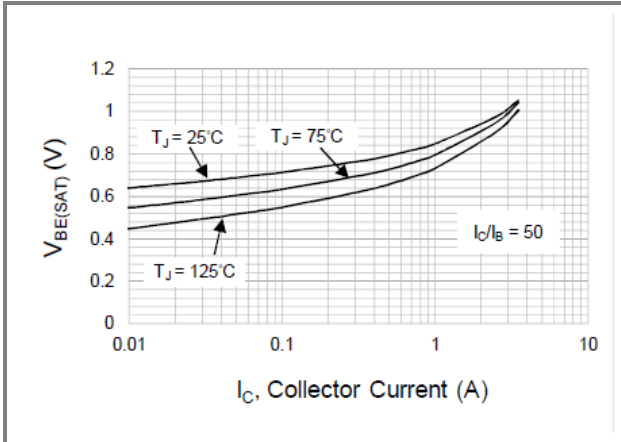


Fig.1 Typical Base-Emitter Saturation Voltage

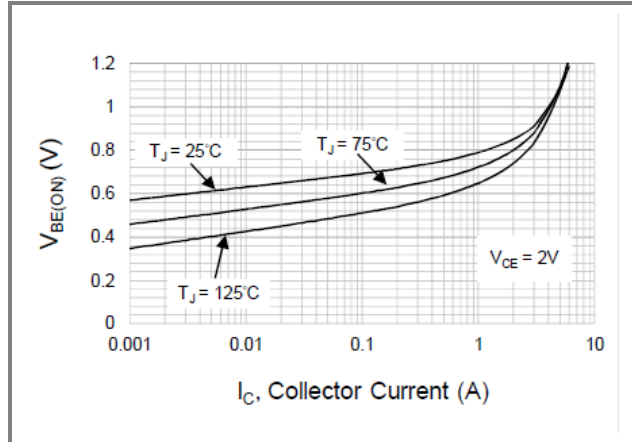


Fig.2 Typical Base-Emitter Saturation Voltage

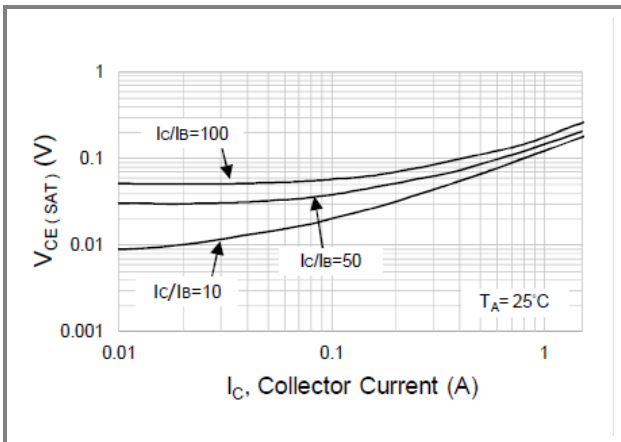


Fig.3 Typical Collector-Emitter Saturation

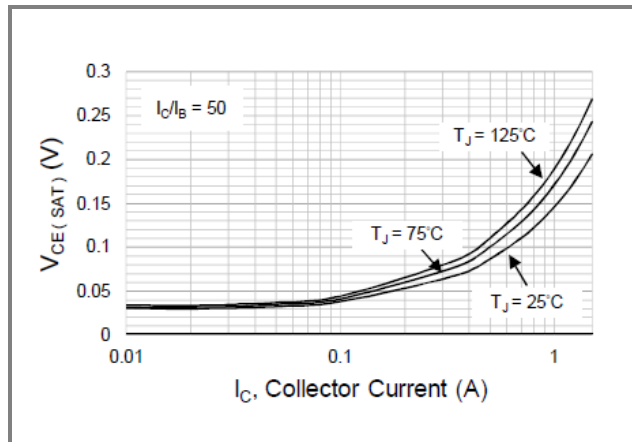


Fig.4 Typical Collector-Emitter Saturation

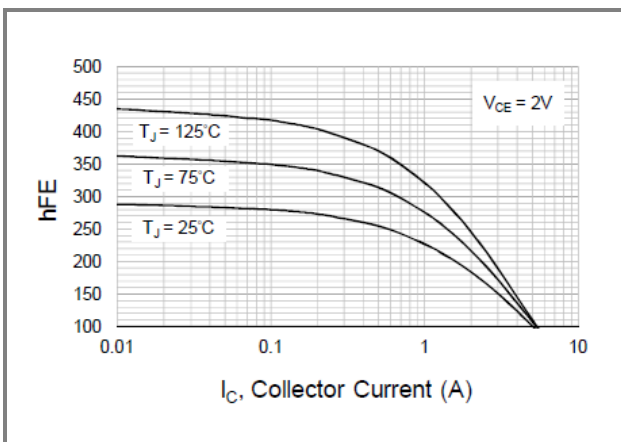


Fig.5 Typical DC Current Gain vs Collector Current

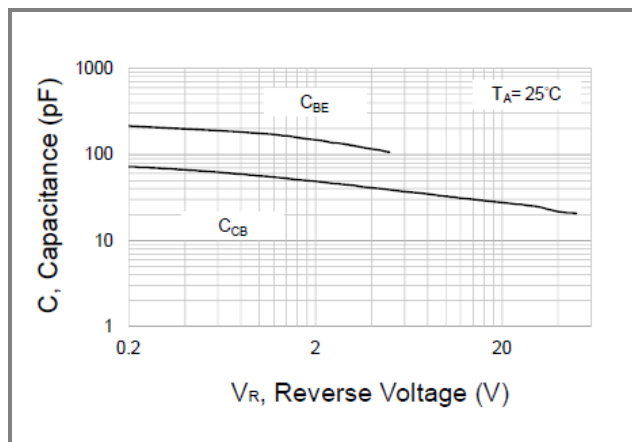


Fig.6 Typical Capacitance

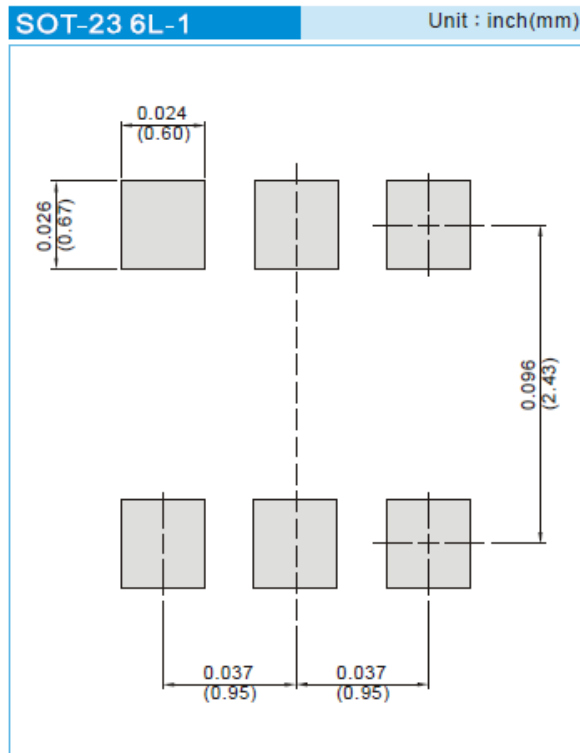


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PART NO PACKING CODE VERSION

Part No Packing Code	Package Type	Packing type	Marking	Version
2SB1427W6_S1_00001	SOT-23 6L-1	3K pcs / 7" reel	B27	Halogen free

MOUNTING PAD LAYOUT





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