

2SB1429

PNP Low Vce(sat) Transistor

Voltage

-20V

Current

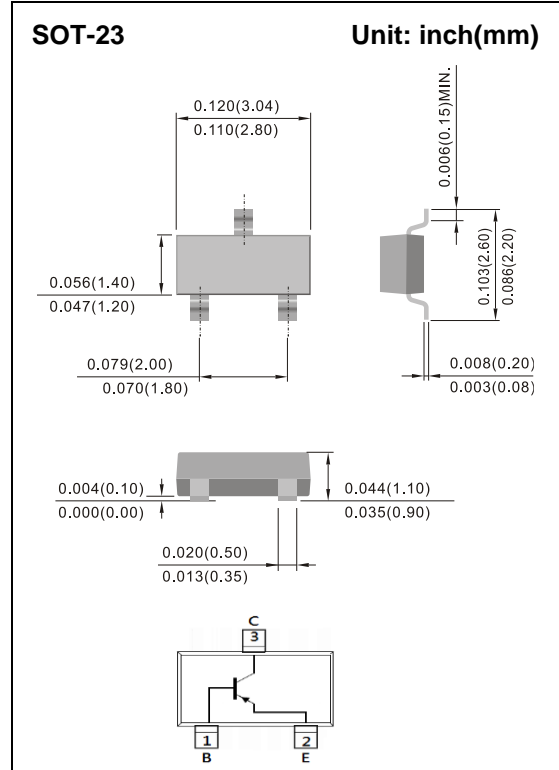
-3A

Features

- Silicon PNP epitaxial type
- Low Vce(sat) -0.3V(max)@Ic/Ib=-3A/-0.3A
- 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 Package
- Terminals: Solderable per MIL-STD-750, Method 2026



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

PARAMETER	SYMBOL	LIMIT	UNITS
Collector-Base Voltage	V _{CBO}	-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	1.25	W
Typical Thermal Resistance from Junction to Ambient ^(Note 1)	R _{θJA}	100	°C/W
Operating Junction and Storage Temperature Range	T _J , T _{STG}	-55~150	°C

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

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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	-20	-	-	V
Collector-Base Breakdown Voltage	BV _{CBO}	I _C = -0.1mA, I _E = 0A	-20	-	-	V
Emitter-Base Breakdown Voltage	BV _{EBO}	I _E = -0.1mA, I _C = 0A	-7	-	-	V
Collector Cutoff Current	I _{CBO}	V _{CB} = -20V, I _E = 0A	-	-	-100	nA
Emitter Cutoff Current	I _{EBO}	V _{EB} = -7V, I _C = 0A	-	-	-100	nA
ON characteristics						
DC Current Gain (Note 2)	h _{FE}	V _{CE} = -2V I _C = -0.1A	200	-	500	-
		V _{CE} = -2V I _C = -0.5A	200	-	500	
		V _{CE} = -2V I _C = -1.6A	100	-	-	
		V _{CE} = -2V I _C = -2.0A	80	-	-	
		V _{CE} = -2V I _C = -3.0A	60	-	-	
Collector-Emitter Saturation Voltage (Note 2)	V _{CE(SAT)}	I _C = -0.5A, I _B = -50mA	-	-	-70	mV
		I _C = -1.6A, I _B = -53mA	-	-	-190	
		I _C = -2A, I _B = -100mA	-	-	-230	
		I _C = -3A, I _B = -300mA	-	-	-300	
Base-Emitter Saturation voltage (Note 2)	V _{BE(SAT)}	I _C = -1.6A, I _B = -53mA	-	-	-1.1	V
		I _C = -3A, I _B = -300mA	-	-	-1.2	
Transition Frequency	f _T	V _{CE} = -2V I _E = 0.5A	-	160	-	MHz
Collector Output Capacitance	C _{OB}	V _{CB} = -10V I _E = 0A, f=1MHz	-	40	-	pF

Note: 2. Pulse width ≤ 300us, Duty cycle ≤ 2%

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TYPICAL CHARACTERISTIC CURVES

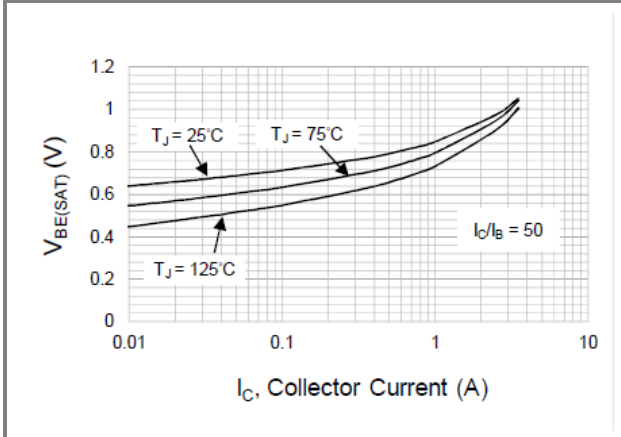


Fig.1 Typical Base-Emitter Saturation Voltage

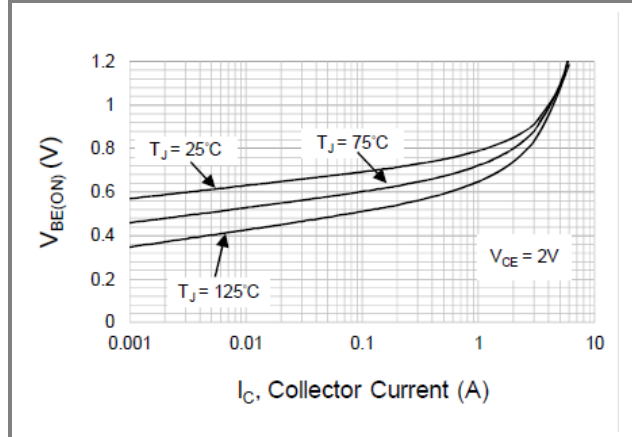


Fig.2 Typical Base-Emitter Saturation Voltage

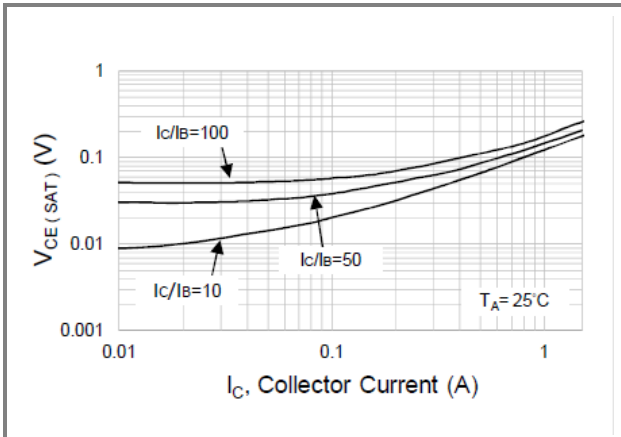


Fig.3 Typical Collector-Emitter Saturation

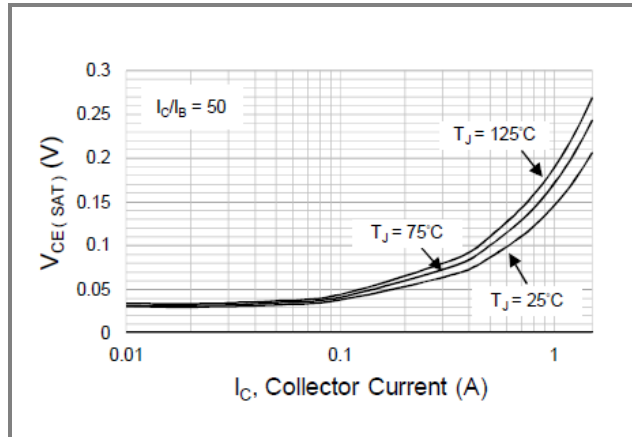


Fig.4 Typical Collector-Emitter Saturation

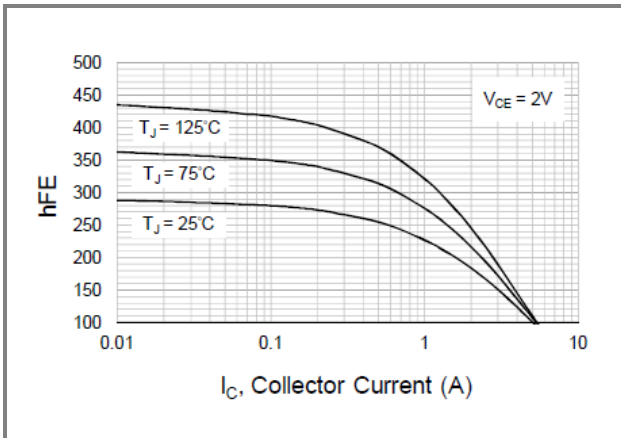


Fig.5 Typical DC Current Gain vs Collector Current

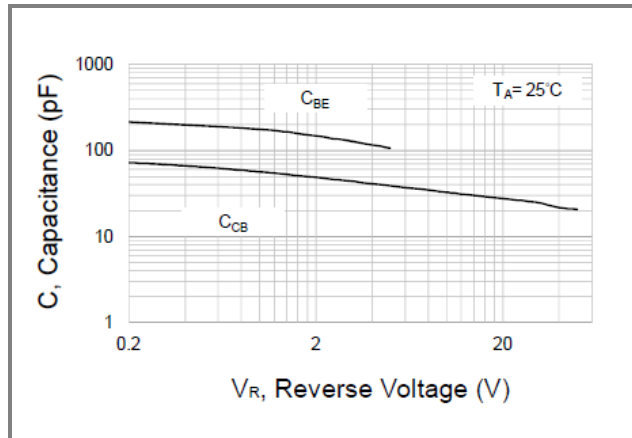


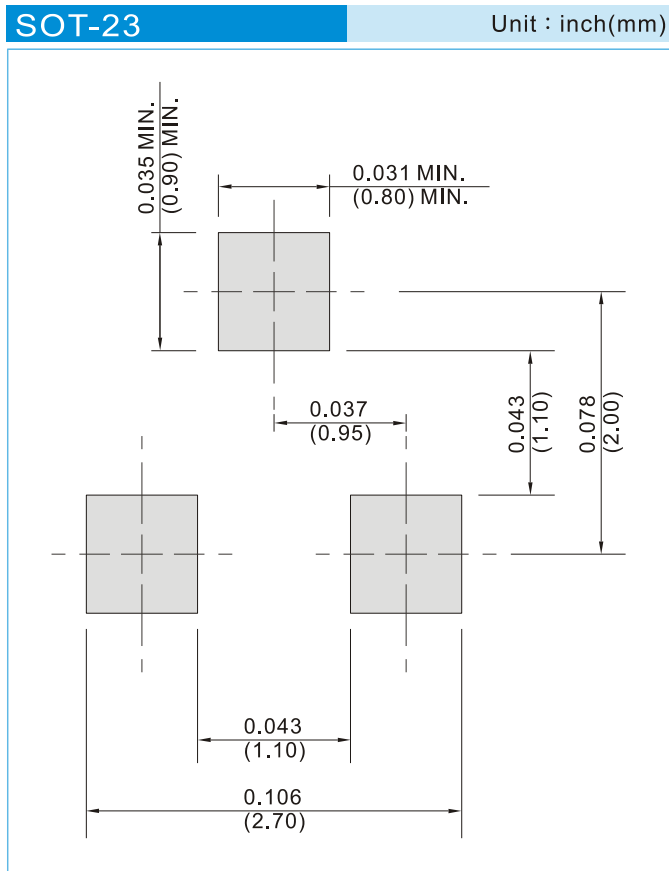
Fig.6 Typical Capacitance

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Product and Packing Information

Part No.	Package Type	Packing Type	Marking
2SB1429	SOT-23	3K pcs / 7" reel	B29
2SB1429	SOT-23	12K pcs / 13" reel	B29

Mounting Pad Layout



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