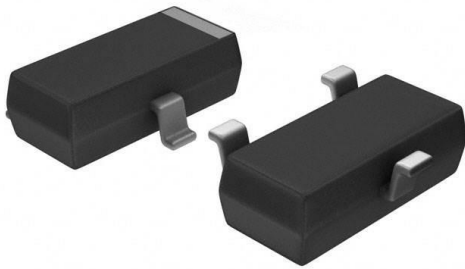


BCX41E6327HTSA1 Datasheet

www.digi-electronics.com



<https://www.DiGi-Electronics.com>

DiGi Electronics Part Number	BCX41E6327HTSA1-DG
Manufacturer	Infineon Technologies
Manufacturer Product Number	BCX41E6327HTSA1
Description	TRANS NPN 125V 0.8A SOT23
Detailed Description	Bipolar (BJT) Transistor NPN 125 V 800 mA 100MHz 330 mW Surface Mount PG-SOT23

This model BCX41E6327HTSA1 is available at DiGi Electronics.

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RFQ Email: Info@DiGi-Electronics.com

DiGi is a global authorized distributor of electronic components.

Purchase and inquiry

Manufacturer Product Number:

BCX41E6327HTSA1

Series:

-

Transistor Type:

NPN

Voltage - Collector Emitter Breakdown (Max):

125 V

Current - Collector Cutoff (Max):

10 μ A

Power - Max:

330 mW

Operating Temperature:

150°C (TJ)

Package / Case:

TO-236-3, SC-59, SOT-23-3

Base Product Number:

BCX41

Manufacturer:

Infineon Technologies

Product Status:

Last Time Buy

Current - Collector (Ic) (Max):

800 mA

Vce Saturation (Max) @ Ib, Ic:

900mV @ 30mA, 300mA

DC Current Gain (hFE) (Min) @ Ic, Vce:

40 @ 200mA, 1V

Frequency - Transition:

100MHz

Mounting Type:

Surface Mount

Supplier Device Package:

PG-SOT23

Environmental & Export classification

RoHS Status:

ROHS3 Compliant

REACH Status:

REACH Unaffected

HTSUS:

8541.21.0075

Moisture Sensitivity Level (MSL):

1 (Unlimited)

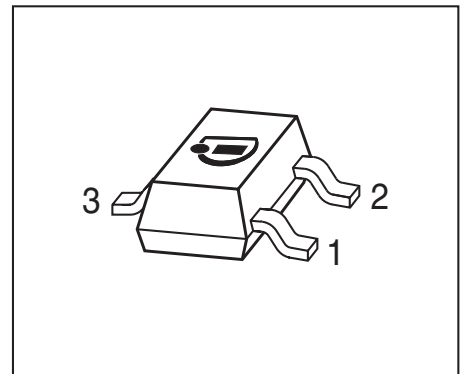
ECCN:

EAR99



NPN Silicon AF and Switching Transistor

- For general AF applications
- High breakdown voltage
- Low collector-emitter saturation voltage
- Complementary type: BCX42 (PNP)
- Pb-free (RoHS compliant) package
- Qualified according AEC Q101



Type	Marking	Pin Configuration			Package
BCX41	EKs	1 = B	2 = E	3 = C	SOT23

Maximum Ratings

Parameter	Symbol	Value	Unit
Collector-emitter voltage	V_{CEO}	125	V
Collector-base voltage	V_{CBO}	125	V
Emitter-base voltage	V_{EBO}	5	V
Collector current	I_C	800	mA
Peak collector current, $t_p \leq 10$ ms	I_{CM}	1	A
Base current	I_B	100	mA
Peak base current	I_{BM}	200	mA
Total power dissipation $T_S \leq 79$ °C	P_{tot}	330	mW
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	-65 ... 150	°C

Thermal Resistance

Parameter	Symbol	Value	Unit
Junction - soldering point ¹⁾	R_{thJS}	≤ 215	K/W

¹⁾For calculation of R_{thJA} please refer to Application Note AN077 (Thermal Resistance Calculation)

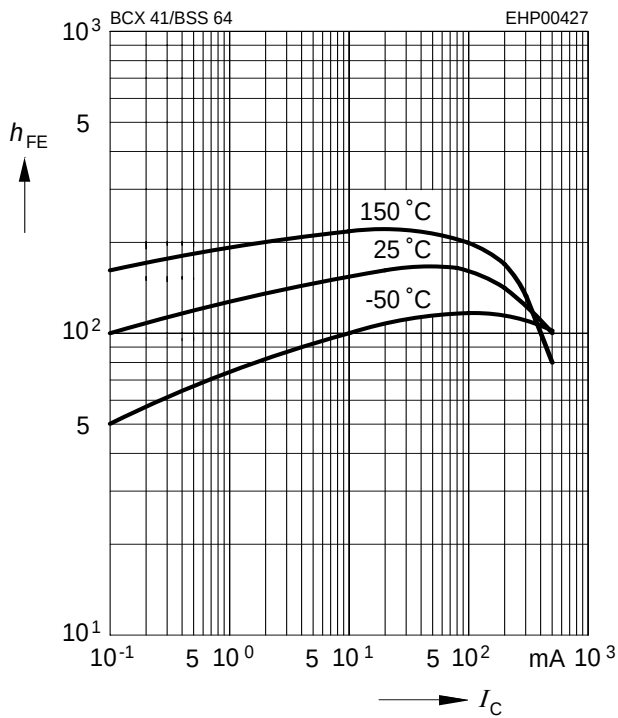
**Electrical Characteristics** at $T_A = 25^\circ\text{C}$, unless otherwise specified

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
DC Characteristics					
Collector-emitter breakdown voltage $I_C = 10\text{ mA}, I_B = 0$	$V_{(BR)CEO}$	125	-	-	V
Collector-base breakdown voltage $I_C = 100\text{ }\mu\text{A}, I_E = 0$	$V_{(BR)CBO}$	125	-	-	
Emitter-base breakdown voltage $I_E = 10\text{ }\mu\text{A}, I_C = 0$	$V_{(BR)EBO}$	5	-	-	
Collector-base cutoff current $V_{CB} = 100\text{ V}, I_E = 0$ $V_{CB} = 100\text{ V}, I_E = 0, T_A = 150\text{ }^\circ\text{C}$	I_{CBO}	- -	- -	0.1 20	μA
Collector-emitter cutoff current $V_{CE} = 100\text{ V}, T_A = 85\text{ }^\circ\text{C}$ $V_{CE} = 100\text{ V}, T_A = 125\text{ }^\circ\text{C}$	I_{CEO}	- -	- -	10 75	
Emitter-base cutoff current $V_{EB} = 4\text{ V}, I_C = 0$	I_{EBO}	-	-	100	
DC current gain ¹⁾ $I_C = 100\text{ }\mu\text{A}, V_{CE} = 1\text{ V}$ $I_C = 100\text{ mA}, V_{CE} = 1\text{ V}$ $I_C = 200\text{ mA}, V_{CE} = 1\text{ V}$	h_{FE}	25 63 40	- - -	- - -	-
Collector-emitter saturation voltage ¹⁾ $I_C = 300\text{ mA}, I_B = 30\text{ mA}$	V_{CEsat}	-	-	0.9	V
Base emitter saturation voltage ¹⁾ $I_C = 300\text{ mA}, I_B = 30\text{ mA}$	V_{BEsat}	-	-	1.4	
AC Characteristics					
Transition frequency $I_C = 20\text{ mA}, V_{CE} = 5\text{ V}, f = 20\text{ MHz}$	f_T	-	100	-	MHz
Collector-base capacitance $V_{CB} = 10\text{ V}, f = 1\text{ MHz}$	C_{cb}	-	12	-	pF

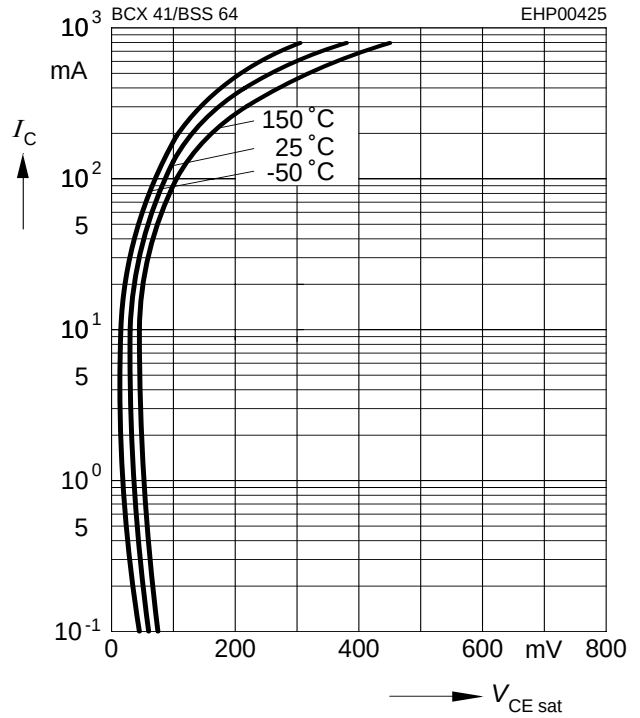
¹⁾Pulse test: $t < 300\mu\text{s}$; $D < 2\%$

**DC current gain $h_{FE} = f(I_C)$**

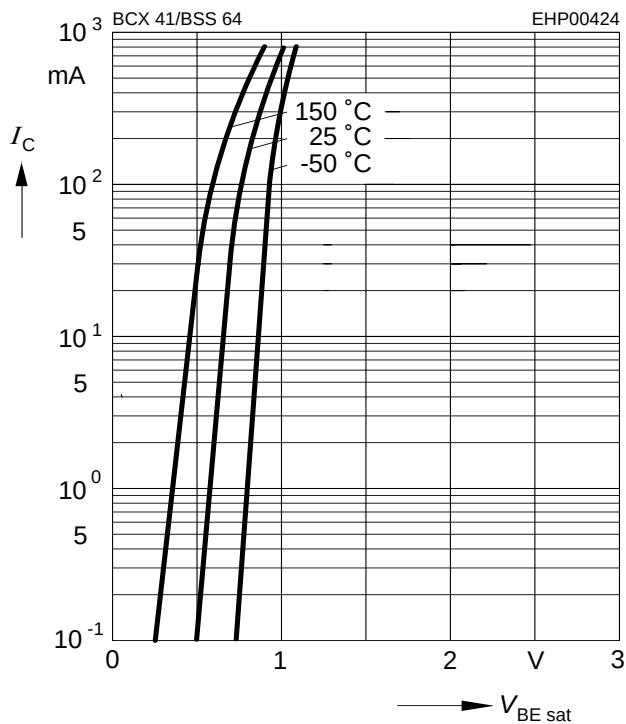
$$V_{CE} = 1 \text{ V}$$

**Collector-emitter saturation voltage**

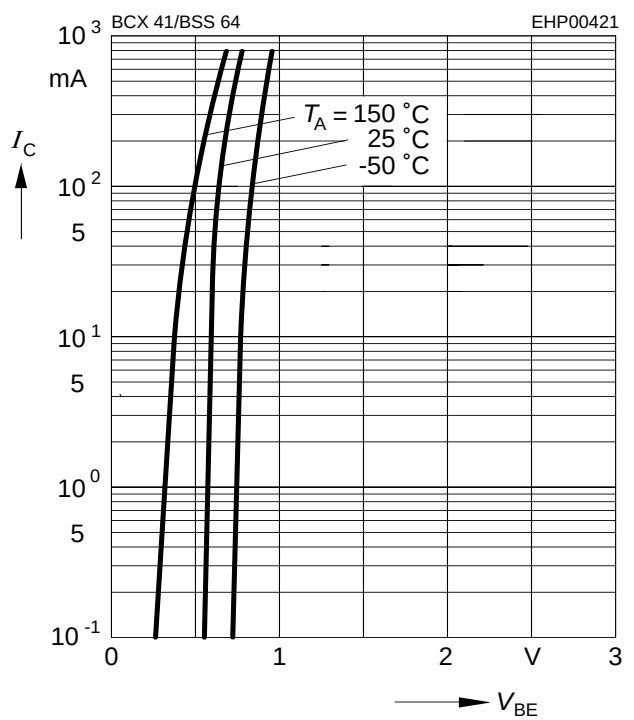
$$I_C = f(V_{CEsat}), h_{FE} = 10$$

**Base-emitter saturation voltage**

$$I_C = f(V_{BEsat}), h_{FE} = 10$$

**Collector current $I_C = f(V_{BE})$**

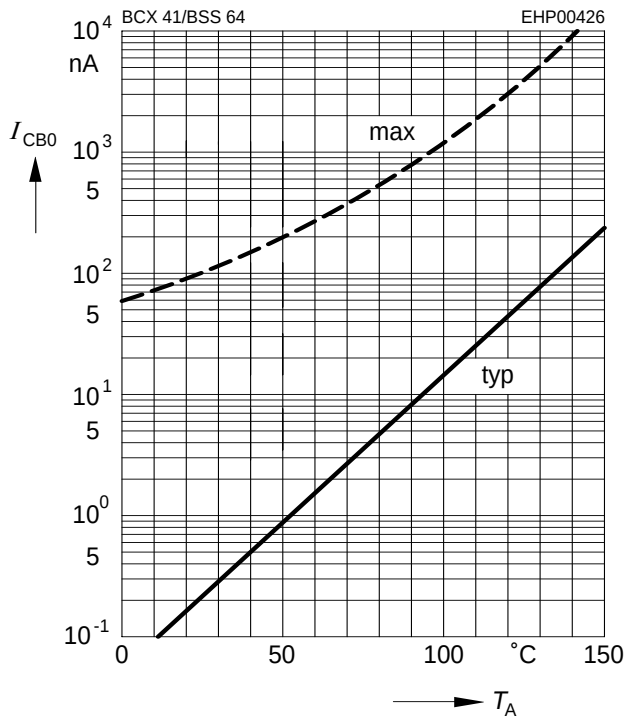
$$V_{CE} = 1 \text{ V}$$





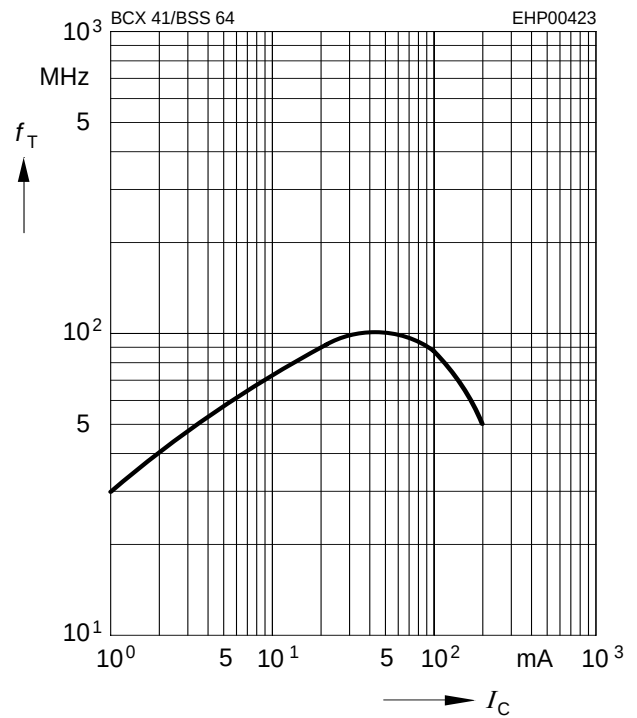
Collector cutoff current $I_{CBO} = f(T_A)$

$V_{CBO} = 80 \text{ V}$



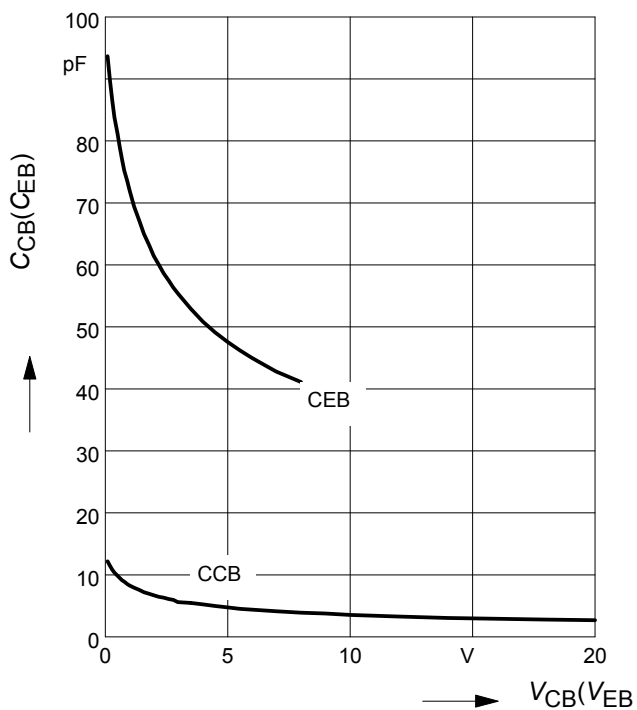
Transition frequency $f_T = f(I_C)$

$V_{CE} = 5 \text{ V}$

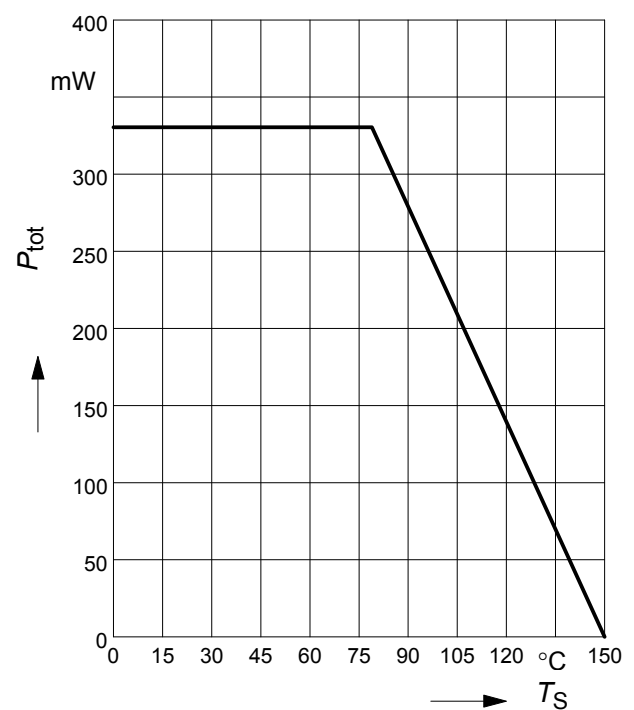


Collector-base capacitance $C_{cb} = f(V_{CB})$

Emitter-base capacitance $C_{eb} = f(V_{EB})$



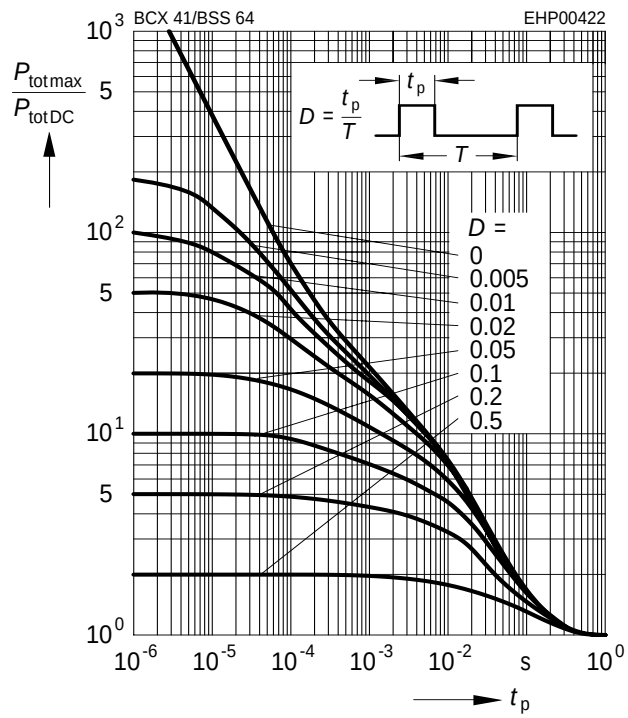
Total power dissipation $P_{tot} = f(T_S)$





Permissible Pulse Load

$$P_{\text{totmax}}/P_{\text{totDC}} = f(t_p)$$

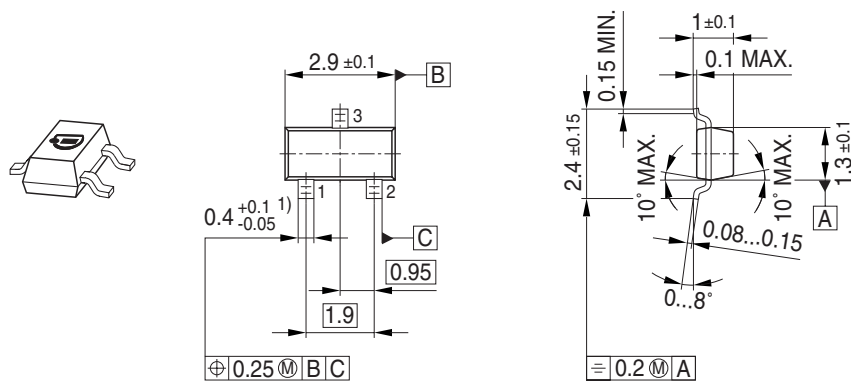




Package SOT23

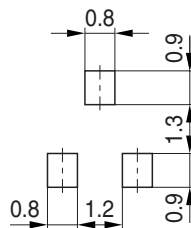
BCX41

Package Outline

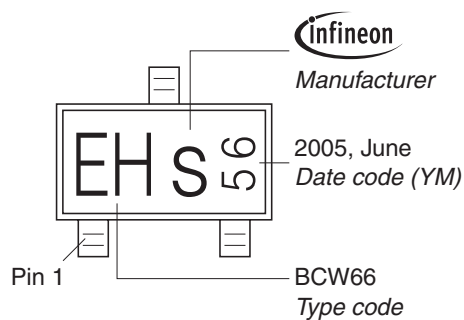


1) Lead width can be 0.6 max. in dambar area

Foot Print

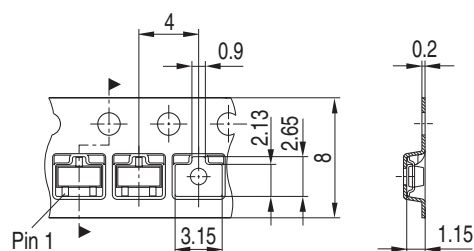


Marking Layout (Example)



Standard Packing

Reel $\varnothing 180$ mm = 3.000 Pieces/Reel
 Reel $\varnothing 330$ mm = 10.000 Pieces/Reel





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