

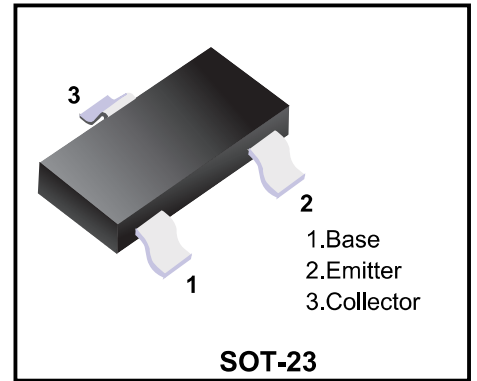
**PNP Plastic-Encapsulate Transistors**

**Applications**

◆For general AF applications

**Features**

- ◆High breakdown voltage
- ◆Low collector-emitter saturation voltage
- ◆Complementary type: BCX41 (NPN)



<b>Marking Code</b>	
BCX42	DKs

**Absolute Maximum Ratings (Ta=25°C)**

Parameter	Symbol	Value	Unit
Collector-base voltage	$BV_{CBO}$	-125	V
Collector-emitter voltage	$BV_{CEO}$	-125	V
Emitter-base voltage	$BV_{EBO}$	-5	V
Collector current	$I_C$	-800	mA
Peak collector current	$I_{CM}$	-1	A
Base current	$I_B$	-100	mA
Peak base current	$I_{BM}$	-200	mA
Total power dissipation	$P_{tot}$	330	mW
Junction temperature	$T_j$	150	°C
Storage temperature	$T_{stg}$	-55~+150	°C

**Thermal Resistance**

Parameter	Symbol	Max	Unit
Junction - soldering point	$R_{\theta JS}$	215	°C/W

For calculation of  $R_{\theta JA}$  please refer to Application Note Thermal Resistance

**Electrical Characteristics** (Ta=25°C , unless otherwise specified)

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$BV_{CBO}$	$I_C = -100\mu A, I_E = 0$	-125			V
Collector-emitter breakdown voltage	$BV_{CEO}$	$I_C = -1mA, I_B = 0$	-125			V
Emitter-base breakdown voltage	$BV_{EBO}$	$I_E = -100\mu A, I_C = 0$	-5			V
Collector cut-off current	$I_{CBO}$	$V_{CB} = -100V, I_E = 0$			-0.1	$\mu A$
Collector-emitter cutoff current	$I_{CEO}$	$V_{CE} = -100V, I_B = 0$			-10	$\mu A$
Emitter cut-off current	$I_{EBO}$	$V_{EB} = -4V, I_C = 0$			-0.1	$\mu A$
DC current gain*	$h_{FE}$	$V_{CE} = -1V, I_C = -0.1mA$	25			
		$V_{CE} = -1V, I_C = -100mA$	63			
		$V_{CE} = -1V, I_C = -200mA$	40			
Collector-emitter saturation voltage*	$V_{CE(sat)}$	$I_C = -300mA, I_B = -30mA$			-0.9	V
Base-emitter saturation voltage*	$V_{BE(sat)}$	$I_C = -300mA, I_B = -30mA$			-1.4	V
Gain bandwidth product	$f_T$	$V_{CE} = -5V, I_C = -20mA,$ $f=20MHz$		150		MHz
Collector-base capacitance	$C_{ob}$	$V_{CB} = -10V, I_E = 0, f=1MHz$		12		pF

\* Pulse test:  $t < 300\mu s$ ; Duty  $< 2\%$

Typical Characteristic

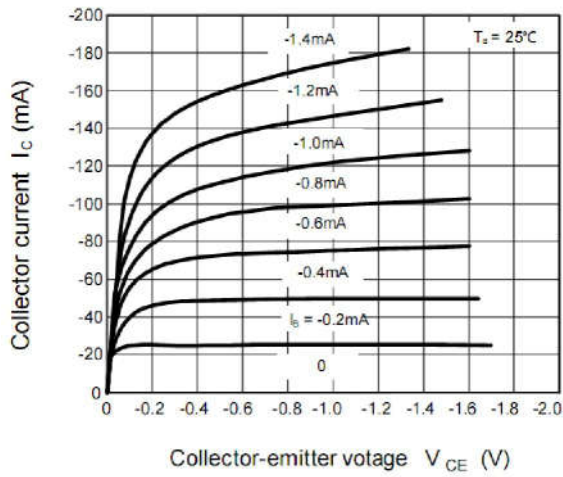


Figure 1. Static characteristics

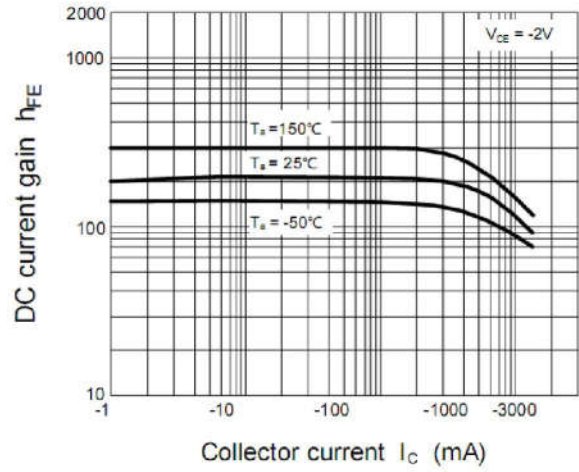


Figure 2. DC Current Gain

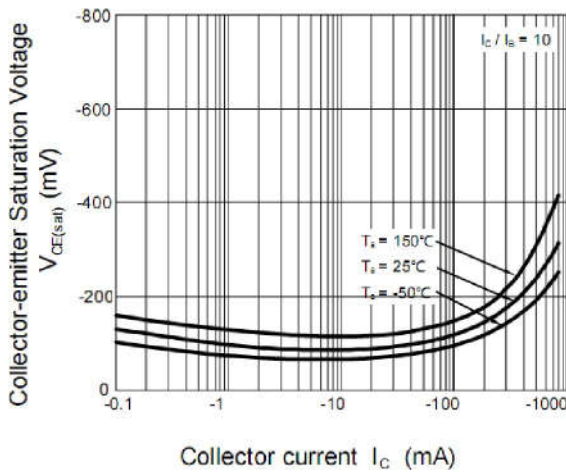


Figure 3. Collector-emitter Saturation Voltage

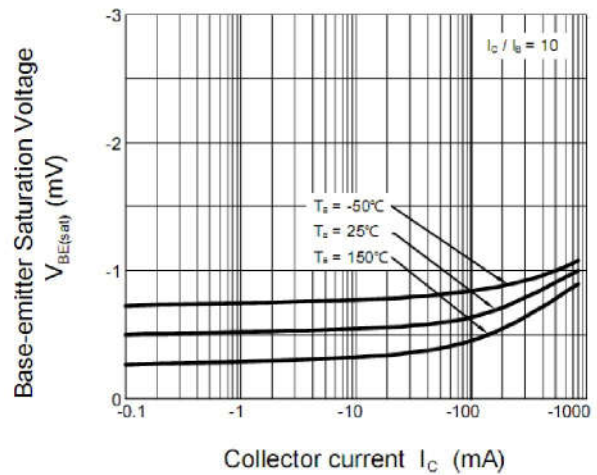


Figure 4. Base-Emitter Saturation Voltage

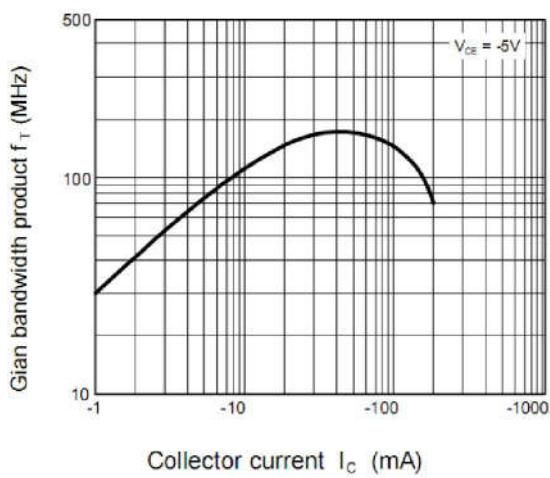


Figure 5. Gian bandwidth product

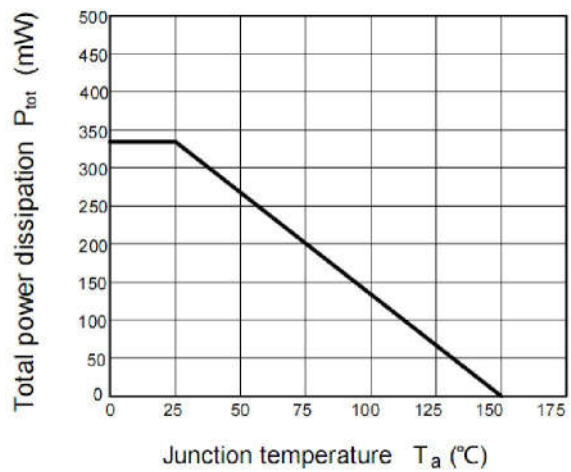


Figure 6. Power Derating

**Ordering information**

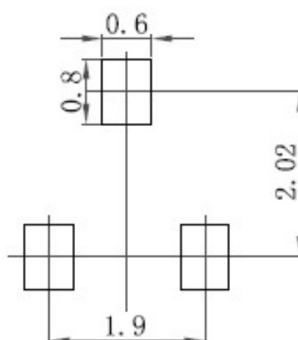
Package	Packing Description	Base Quantity	Packing Quantity
SOT-23	Tape/Reel,7"reel	3000pcs/Reel	24000PCS/Box 120000PCS/Carton

**Package Dimensions**

**SOT-23**

Dim.	Millimeter (mm)		mil	
	Min.	Max.	Min.	Max.
A	0.9	1.15	35	45
A1	0.1		3.9	
bp	0.38	0.48	15	19
C	0.09	0.15	3.54	5.9
D	2.8	3.0	110	118
E	1.2	1.4	47	55
E	1.9		75	
E1	0.95		37	
HE	2.1	2.55	83	100
Lp	0.15	0.45	5.9	18
Q	0.45	0.55	18	22
v	0.2		7.9	
W	0.1		4	

**The recommended mounting pad size**



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