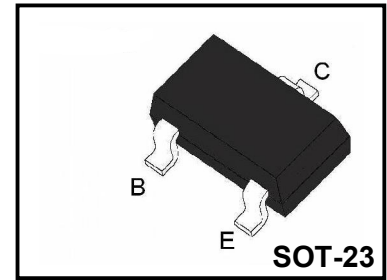


PNP Plastic-Encapsulate Transistors



Applications

◆ For general AF applications

Features

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

Marking: 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	μA
Collector-emitter cutoff current	I_{CEO}	$V_{CE} = -100V, I_B = 0$			-10	μA
Emitter cut-off current	I_{EBO}	$V_{EB} = -4V, I_C = 0$			-0.1	μA
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

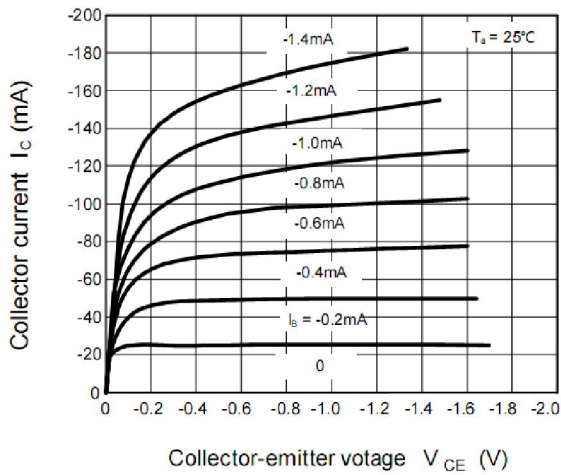


Figure 1. Static characteristics

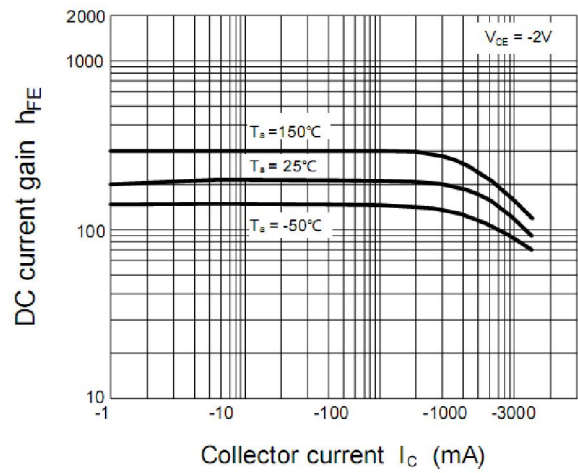


Figure 2. DC Current Gain

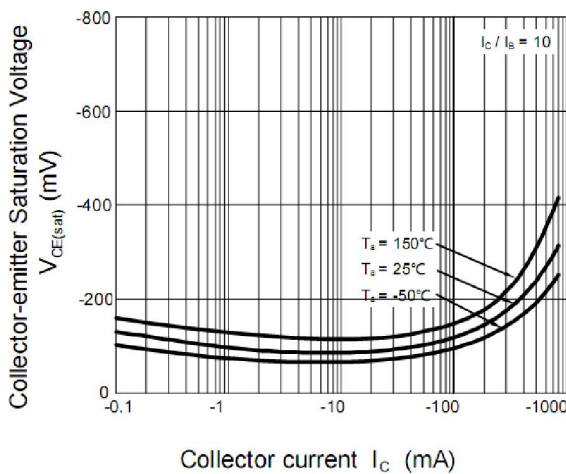


Figure 3. Collector-emitter Saturation Voltage

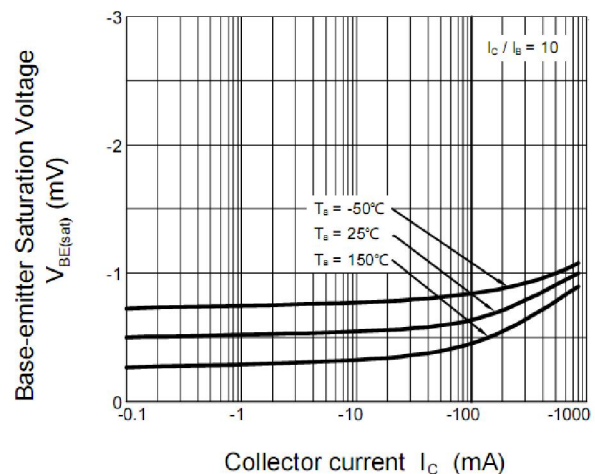


Figure 4. Base-Emitter Saturation Voltage

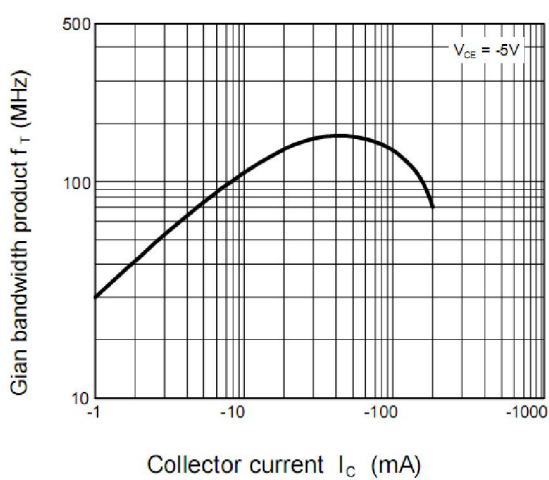


Figure 5. Gian bandwidth product

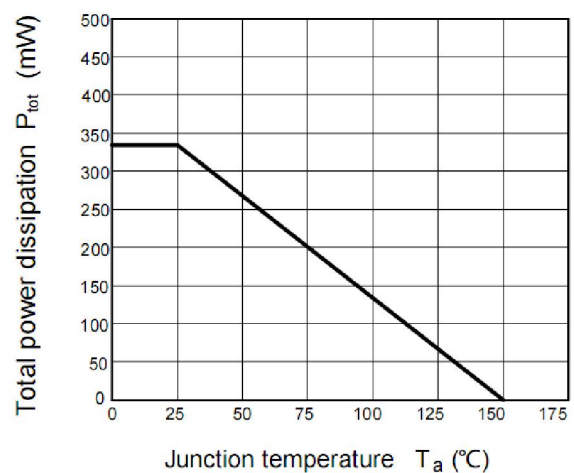


Figure 6. Power Derating

Package Outline

SOT-23

Dim	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	0.90	1.15	0.035	0.045
A1	0.00	0.10	0.000	0.004
A2	0.90	1.05	0.035	0.041
b	0.30	0.50	0.012	0.020
c	0.08	0.15	0.003	0.006
D	2.80	3.00	0.110	0.118
E	1.20	1.40	0.047	0.055
E1	2.25	2.55	0.089	0.100
e	0.90	1.00	0.035	0.039
e1	1.80	2.00	0.071	0.079
L	0.50	0.60	0.020	0.024
L1	0.30	0.50	0.012	0.020

Summary of Packing Options

Package	Packing Description	Packing Quantity	Industry Standard
SOT-23	Tape/Reel, 7" reel	3000	EIA-481-1

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