

DN030S

NPN Silicon Transistor

PIN Connection

3

SOT-23F

Base

Features

- Extremely low collector-to-emitter saturation voltage
 - ($V_{CE(SAT)} = 0.1V \text{ Typ. } @I_C/I_B = 100\text{mA}/10\text{mA})$
- Suitable for low voltage large current drivers
- Complementary pair with DP030S
- Switching Application

Ordering Information

Type NO.	Marking	Package Code
DN030S	NO1	SOT-23F

¹⁾ Device Code 2) Year&Week Code

Absolute maximum ratings

(Ta=25°C)

Collector

Emitter

Characteristic	Symbol	Ratings	Unit
Collector-Base voltage	V_{CBO}	15	V
Collector-Emitter voltage	V_{CEO}	12	V
Emitter-Base voltage	V_{EBO}	5	V
Collector current	I _C	300	mA
Collector dissipation	P _C	200	mW
Junction temperature	T _j	150	°C
Storage temperature	T _{stg}	-55~150	°C

Electrical Characteristics

(Ta=25°C)

Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Collector-Base breakdown voltage	BV _{CBO}	$I_{C} = 50 \mu A, I_{E} = 0$	15	-	-	V
Collector-Emitter breakdown voltage	BV _{CEO}	$I_C=1$ mA, $I_B=0$	12	-	-	V
Emitter-Base breakdown voltage	BV _{EBO}	$I_E = 50 \mu A, I_C = 0$	5	-	-	V
Collector cut-off current	I _{CBO}	$V_{CB} = 12V, I_{E} = 0$	-	-	0.1	μА
Emitter cut-off current	I _{EBO}	$V_{EB} = 5V$, $I_{C} = 0$	-	-	0.1	μА
DC current gain	h _{FE1}	V _{CE} =1V, I _C =100mA	200	-	450	-
DC current gain	h _{FE2}	$V_{CE} = 1V, I_{C} = 300 \text{mA}$	70	-	-	-
Collector-Emitter saturation voltage	V _{CE(sat1)}	I _C =100mA, I _B =10mA	-	-	0.2	V
Collector-Efflitter saturation voltage	V _{CE(sat2)}	I _C =300mA, I _B =30mA	-	-	0.5	V
Dasa Emittar saturation valtage	V _{BE(sat1)}	I _C =100mA, I _B =10mA	-	-	1.2	V
Base-Emitter saturation voltage	V _{BE(sat2)}	I _C =300mA, I _B =30mA	-	-	1.7	V
Transition frequency	f _T	$V_{CE}=5V$, $I_{C}=10mA$	-	300	-	MHz
Collector output capacitance	C _{ob}	V _{CB} =10V, I _E =0, f=1MHz	-	3	-	PF

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Electrical Characteristic Curves

Fig. 1 P_C - T_a

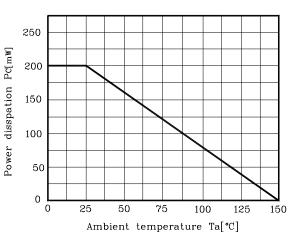


Fig. 2 I_C - V_{BE}

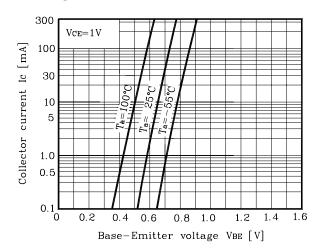


Fig. 3 $h_{FE}\$ - $\ I_{C}$

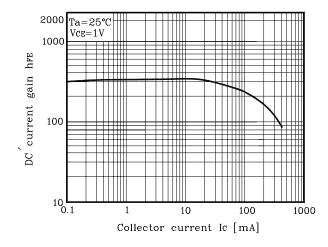


Fig. 4 I_{C} - V_{CE}

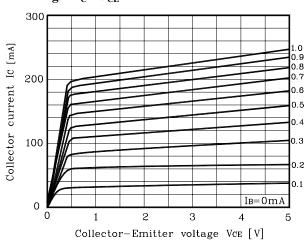
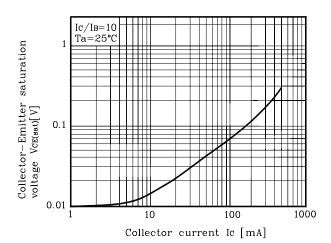
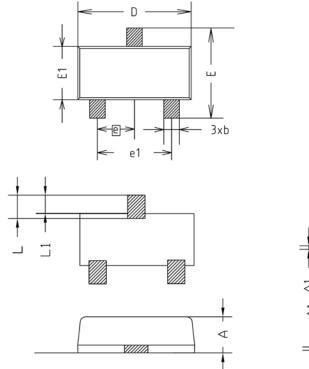


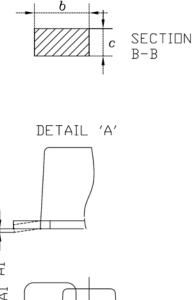
Fig. 5 $V_{\text{CE}(\text{sat})}$ - I_{C}



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Outline Dimension

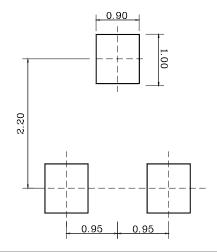




SEE DETAIL 'A'

SYMBOL	MILLIMETER(mm)			NOTE
STADUL	MINIMUM	NDMINAL	MAXIMUM	NUIL
Α	0.80	0.90	1.00	
A1	0.00	_	0.10	
b	0.35	0.40	0.45	
C	0.10	0.15	0.20	
D	2.80	2.90	3.00	
Е	2.30	2.40	2.50	
E1	1.50	1.60	1.70	
е	0.95BSC			
e1	1.80	1.90	2.00	
L	0.48	0.58	0.68	
L1	0.30	-	0.50	

*Recommend PCB solder land [Unit: mm]



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