

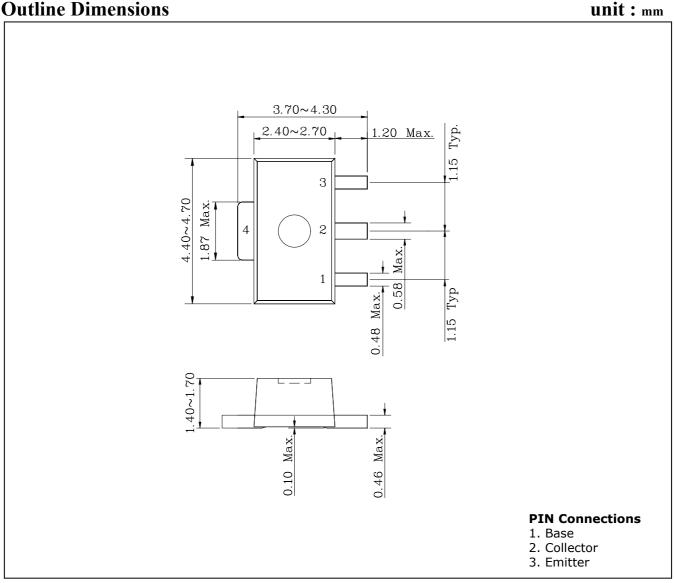
#### **Features**

- Extremely low collector-to-emitter saturation voltage
- $(V_{CE(SAT)} = 0.2V \text{ Typ.} @I_C/I_B = 1A/50 \text{ mA})$
- Suitable for low voltage large current drivers
- Complementary pair with DP200F
- Switching Application

#### **Ordering Information**

Type NO.	Marking	Package Code	
DN200F	N04	SOT-89	

#### **Outline Dimensions**



# **DN200F**

## Absolute maximum ratings

Absolute maximum ratings			(Ta=25°C)	
Characteristic	Symbol	Ratings	Unit	
Collector-Base voltage	V <sub>CBO</sub>	15	V	
Collector-Emitter voltage	V <sub>CEO</sub>	12	V	
Emitter-Base voltage	V <sub>EBO</sub>	5	V	
Collector current	I <sub>C</sub>	2	А	
Collector power dissipation	P <sub>C</sub>	0.5	W	
	$P_{C}^{*}$	2	٧V	
Junction temperature	Tյ	150	°C	
Storage temperature	T <sub>stg</sub>	-55~150	°C	

\* : When mounted on 40×40×0.8mm ceramic substate

### **Electrical Characteristics**

Electrical Characteristics (Ta=25°C						=25°C)
Characteristic	Symbol	Test Condition	Min.	Тур.	Max.	Unit
Collector-Base breakdown voltage	$BV_{CBO}$	$I_C=50 \ \mu A$ , $I_E=0$	15	-	-	V
Collector-Emitter breakdown voltage	$BV_{CEO}$	$I_C=1 \text{ mA}, I_B=0$	12	-	-	V
Emitter-Base breakdown voltage	$BV_{EBO}$	$I_E=50 \ \mu A$ , $I_C=0$	5	-	-	V
Collector cut-off current	I <sub>CBO</sub>	$V_{CB}$ =12V, $I_E$ =0	-	-	0.1	μA
Emitter cut-off current	$I_{EBO}$	$V_{EB}$ =5V, $I_{C}$ =0	-	-	0.1	μA
DC current gain	h <sub>FE1</sub>	$V_{CE}$ =1V, $I_C$ =100 mA	200	-	450	-
	h <sub>FE2</sub>	$V_{CE}$ =1V, $I_{C}$ =2A	40	-	-	-
Collector-Emitter saturation voltage	$V_{CE(sat)}$	$I_C=1A$ , $I_B=50$ mA	-	-	0.3	V
Base-Emitter saturation voltage	$V_{\text{BE(sat)}}$	$I_C=1A$ , $I_B=50$ mA	-	-	1.2	V
Transition frequency	f <sub>T</sub>	$V_{CE}$ =5V, $I_C$ =50 mA	-	260	-	MHz
Collector output capacitance	C <sub>ob</sub>	$V_{CB}{=}10V,~I_{E}{=}0,~f{=}1~\text{MHz}$	-	5	-	pF

## **DN200F**

## **Electrical Characteristic Curves**

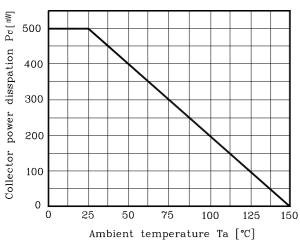


Fig. 1 P<sub>C</sub> - T<sub>a</sub>

Fig. 3  $h_{FE}$ - $I_C$ 

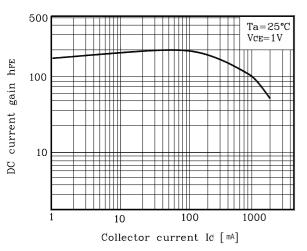


Fig. 2  $I_C$  -  $V_{BE}$ 

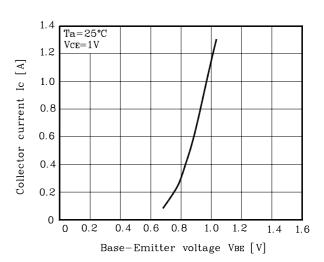
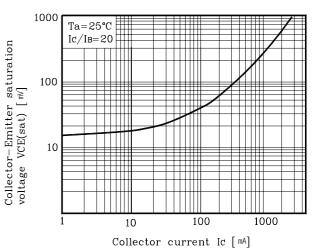


Fig. 4 V<sub>CE(sat)</sub>-I<sub>C</sub>



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