

**Features**

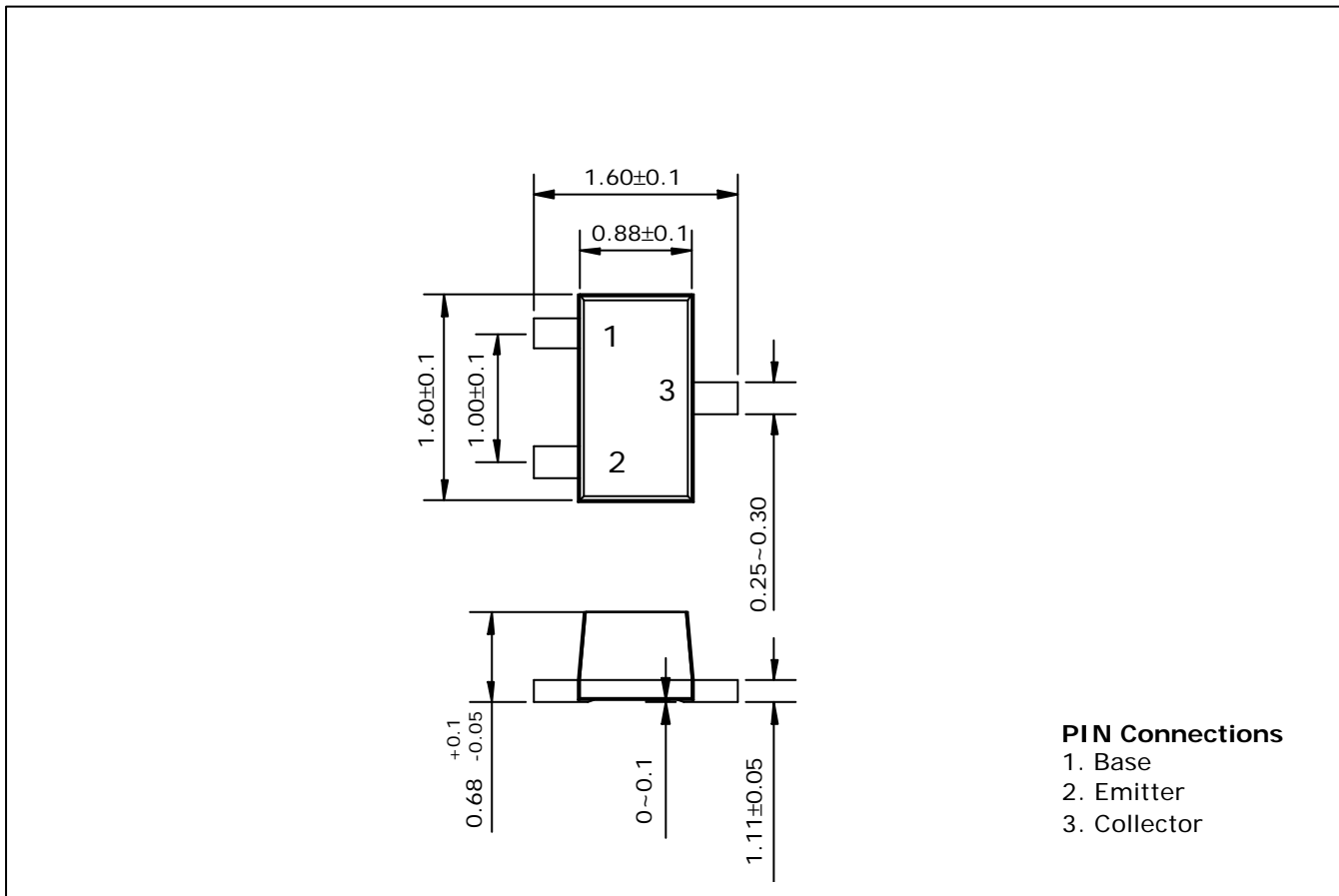
- Extremely low collector-to-emitter saturation voltage  
(  $V_{CE(SAT)} = 0.1V$  Typ. @  $I_C/I_B = 100mA/10mA$  )
- Suitable for low voltage large current drivers
- Complementary pair with DP030E
- Switching Application

**Ordering Information**

Type NO.	Marking	Package Code
DN030E	N01	SOT-523F

**Outline Dimensions**

unit : mm



## Absolute maximum ratings

(Ta=25° C)

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	$P_C$	150	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	$BV_{CEO}$	$I_C=1mA, I_B=0$	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	$\mu A$
Emitter cut-off current	$I_{EBO}$	$V_{EB}=5V, I_C=0$	-	-	0.1	$\mu A$
DC current gain	$h_{FE1}$	$V_{CE}=1V, I_C=100mA$	200	-	450	-
	$h_{FE2}$	$V_{CE}=1V, I_C=300mA$	70	-	-	-
Collector-Emitter saturation voltage	$V_{CE(sat1)}$	$I_C=100mA, I_B=10mA$	-	-	0.2	V
	$V_{CE(sat2)}$	$I_C=300mA, I_B=30mA$	-	-	0.5	V
Base-Emitter saturation voltage	$V_{BE(sat1)}$	$I_C=100mA, I_B=10mA$	-	-	1.2	V
	$V_{BE(sat2)}$	$I_C=300mA, I_B=30mA$	-	-	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

Electrical Characteristic Curves

Fig. 1  $P_C - T_a$

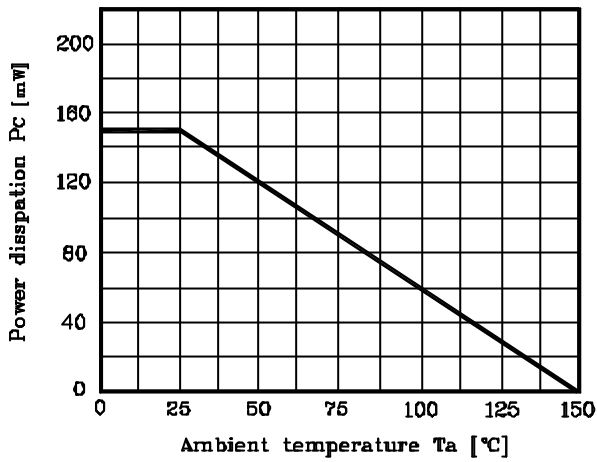


Fig. 2  $I_C - V_{BE}$

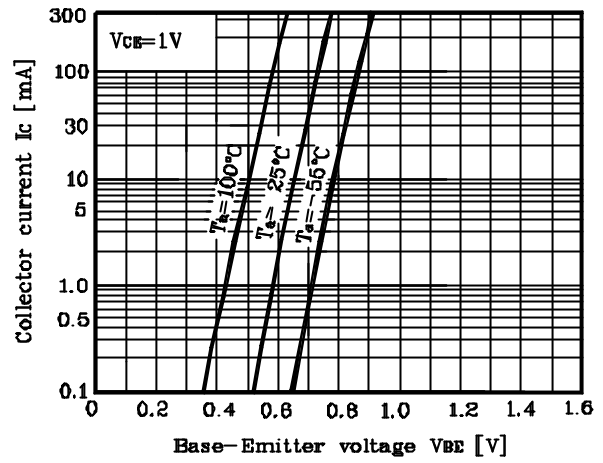


Fig. 3  $h_{FE} - I_C$

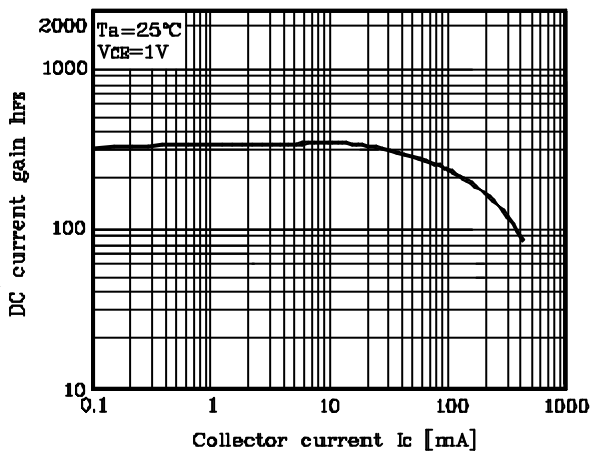


Fig. 4  $I_C - V_{CE}$

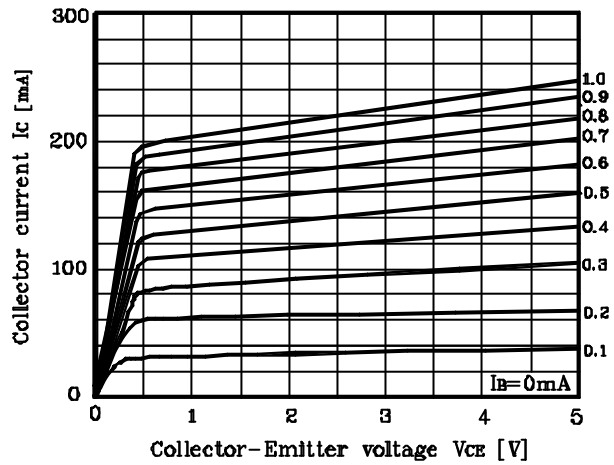


Fig. 5  $V_{CE(sat)} - I_C$

