

# **SUT161G**

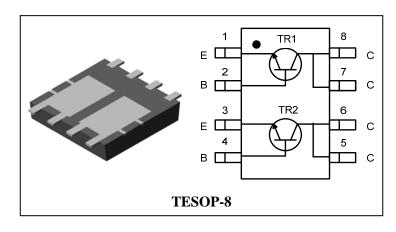
**Dual NPN Bipolar transistor** 

## **Descriptions**

- General purpose amplifier
- Recommended for LED Drive Application

#### **Features**

- Thermally Enhanced Power PKG
- Low saturation:  $V_{CE}(sat) = 0.5V Max$
- 2 NPN chips in TESOP-8 Package



#### **Ordering Information**

Type NO.	Marking	Package Code
SUT161G	SUT161□	TESOP-8

 $\hfill\Box$  : Year & Week Code

#### **Absolute maximum ratings(TR1, TR2)**

(Ta=25°C)

Characteristic	Symbol	Ratings	Unit
Collector-Base voltage	$V_{CBO}$	160	V
Collector-Emitter voltage	$V_{CEO}$	160	V
Emitter-Base voltage	$V_{EBO}$	6	V
Collector current	$I_{C}$	1	A(DC)
Collector current	$\mathrm{I}_{CP}^{m{*}}$	2	A(Pulse)
	P <sub>C</sub> (Ta=25°C) **	0.75	W/TOTAL
Collector power dissipation	PC(1a=23 C) · ·	0.55	W/ELEMENT
	P <sub>C</sub> (Tc=25°C)	7.5	W/TOTAL
Junction temperature	T <sub>J</sub>	150	°C
Storage temperature	$T_{stg}$	-55~150	°C

<sup>\*:</sup> Single pulse, tp=  $300 \mu s$ 

#### **Electrical Characteristics(TR1, TR2)**

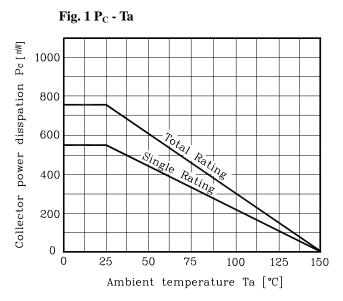
Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Collector-Base breakdown voltage	BV <sub>CBO</sub>	$I_{C}=100\mu A,\ I_{E}=0$	160	-	-	V
Collector-Emitter breakdown voltage	BV <sub>CEO</sub>	$I_C=1$ mA, $I_B=0$	160	-	-	V
Emitter-Base breakdown voltage	$BV_{EBO}$	$I_E=100\mu A,\ I_C=0$	6	-	-	V
Collector cut-off current	$I_{CBO}$	$V_{CB} = 160V, I_{E} = 0$	-	-	0.1	μA
Emitter cut-off current	$I_{EBO}$	$V_{EB}$ =4V, $I_C$ =0	-	-	0.1	μA
DC current gain	h <sub>FE</sub> 1)	$V_{CE}$ =5V, $I_{C}$ = 30 mA	200	-	400	-
Collector-Emitter saturation voltage	$V_{CE(sat)}$	I <sub>C</sub> =500mA, I <sub>B</sub> =50mA	-	-	0.5	V
Base-Emitter saturation voltage	$V_{BE(sat)}$	$I_C=500$ mA, $I_B=50$ mA	-	-	1.2	V
Transition frequency	$f_T$	$V_{CE}$ =5V, $I_{C}$ = 50 mA	-	150	-	MHz
Collector output capacitance	C <sub>ob</sub>	$V_{CB}=10V$ , $I_{E}=0$ , $f=1$ MHz	-	10	-	рF

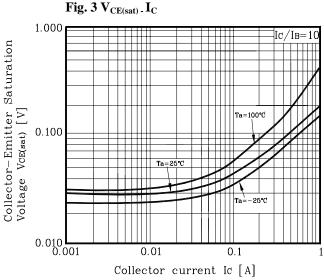
Note 1) hFE Rank: 200~400 only

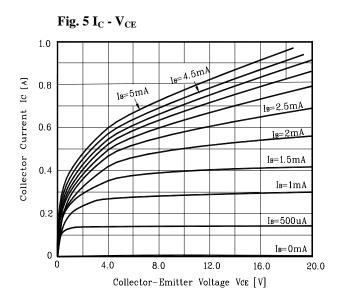
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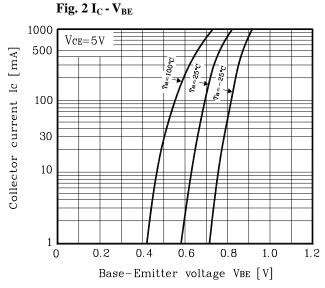
<sup>\*\*:</sup> Each terminal mounted on a recommended solder land

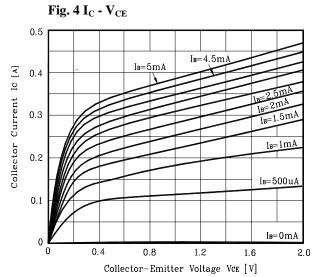
### Electrical Characteristic Curves(TR1, TR2)

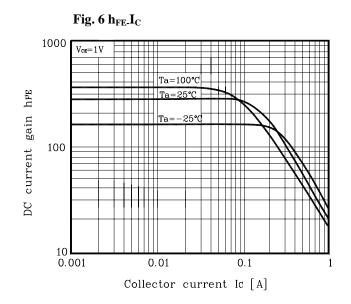












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#### **Electrical Characteristic Curves**

Fig. 7 h<sub>FE</sub>.I<sub>C</sub>

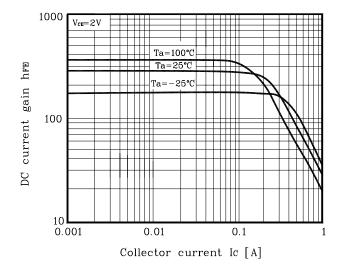


Fig. 8 h<sub>FE</sub>.I<sub>C</sub>

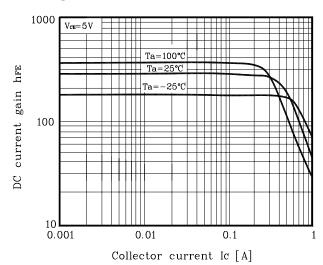


Fig. 9  $h_{FE}I_C$ 

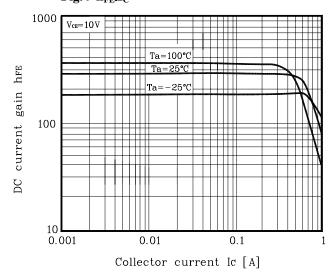


Fig. 10 Cob -  $V_{CB}$ 

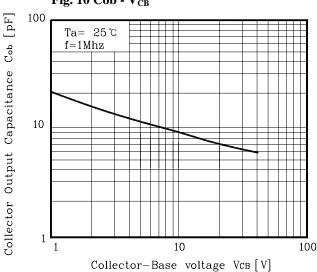


Fig. 11  $f_T$  -  $I_C$ 

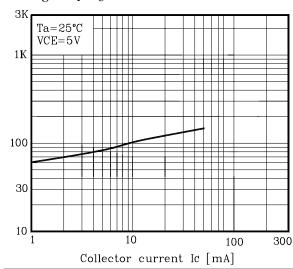
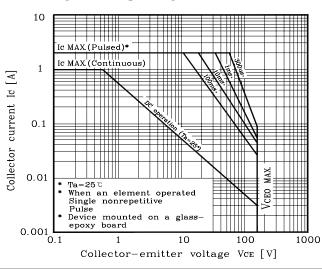


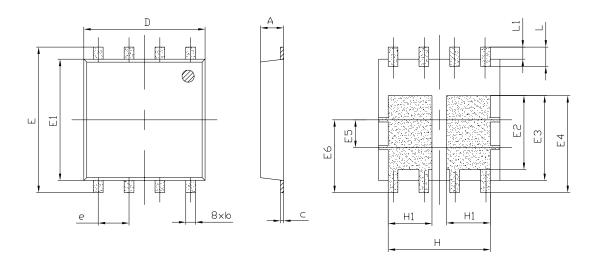
Fig. 12 Safe operating Area



Transition Frequency fr [MHz]

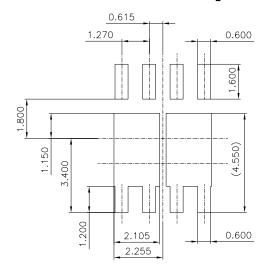
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# **Outline Dimension**



SYMBOL	MILLIMETER(mm)			NOTE
	MINIMUM	NOMINAL	MAXIMUM	14616
Α	0.900	0.950	1.000	
b	0.350	0.400	0.500	
_	0.077	0.127	0.157	
D	4.900	5.000	5.100	
E	5.850	6.000	6.150	
E1	4.900	5.000	5.100	
E2	2.850	3.050	3.250	
E3	3.300	3.500	3.700	
E4	3.800	4.000	4.200	
E5		1.145 TYP		
E6	3.000 TYP			
е	1.270 TYP			
Н	4.210 TYP			
H1	1.805 TYP			
L	0.650	0.800	0.950	
L1	0.350	0.500	0.650	

#### \*Recommend PCB solder land [Unit: mm]



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