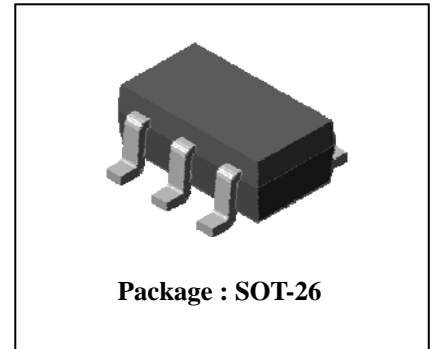


Descriptions

- Complex type bipolar transistor

Features

- Reduce quantity of parts and mounting cost
- High collector power dissipation : $P_C=300\text{mW}(\text{Max.})$
- 2 NPN+PNP Chips in SOT-26 PKG

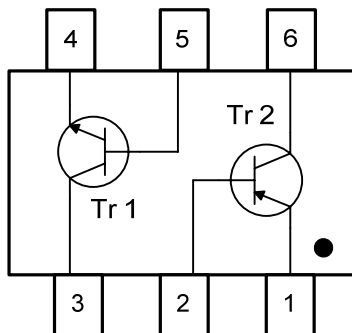


Ordering Information

Type NO.	Marking	Package Code
SUT465N	5N◇□	SOT-26

◇ : Hfe rank, □ : Year & Week Code

PIN Assignment & Description



[Pin Assignment]

Pin	Description
1	Emitter 2
2	Base 2
3	Collector 1
4	Emitter 1
5	Base 1
6	Collector 2

Absolute Maximum Ratings [Tr1, Tr2]

Characteristic	Symbol	Ratings		Unit
		Tr1	Tr2	
Collector-Base voltage	V_{CB0}	75	-60	V
Collector-Emitter voltage	V_{CEO}	40	-40	V
Emitter-Base voltage	V_{EBO}	5	-5	V
Collector current	I_C	600	-600	mA(DC)
	I_{CP}^*	1.2	-1.2	A(AC)
Collector power dissipation	P_C^{**}	300		mW
Junction temperature	T_J	150		°C
Storage temperature	T_{stg}	-55~150		°C

* : Single pulse, $t_p=300\ \mu\text{s}$

** : Total rating(Each terminal mounted on a recommended solder land)

Electrical Characteristics [Tr1]

(Ta=25°C)

Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Collector-Base breakdown voltage	BV_{CBO}	$I_C=10\mu A, I_E=0$	75	-	-	V
Collector-Emitter breakdown voltage	BV_{CEO}	$I_C=1mA, I_B=0$	40	-	-	V
Emitter-Base breakdown voltage	BV_{EBO}	$I_E=10\mu A, I_C=0$	5	-	-	V
Collector cut-off current	I_{CBO}	$V_{CB}=75V, I_E=0$	-	-	20	nA
DC current gain	h_{FE}	$V_{CE}=10V, I_C=10mA$	100	-	-	-
Collector-Emitter saturation voltage	$V_{CE(sat)}$	$I_C=150mA, I_B=15mA$	-	-	0.4	V
Transition frequency	f_T	$V_{CE}=20V, I_C=20mA, f=100MHz$	250	-	-	MHz
Collector output capacitance	C_{ob}	$V_{CB}=10V, I_E=0, f=1MHz$	-	-	8	pF
Delay time	t_d	$V_{CC}=30V_{dcr}, V_{BE(off)}=0.5V_{dcr}, I_C=150mA_{dcr}, I_{B1}=15mA_{dc}$	-	-	10	ns
Rise time	t_r		-	-	25	ns
Storage time	t_s		-	-	225	ns
Fall Time	t_f	$I_{B1}=I_{B2}=15mA_{dc}$	-	-	60	ns

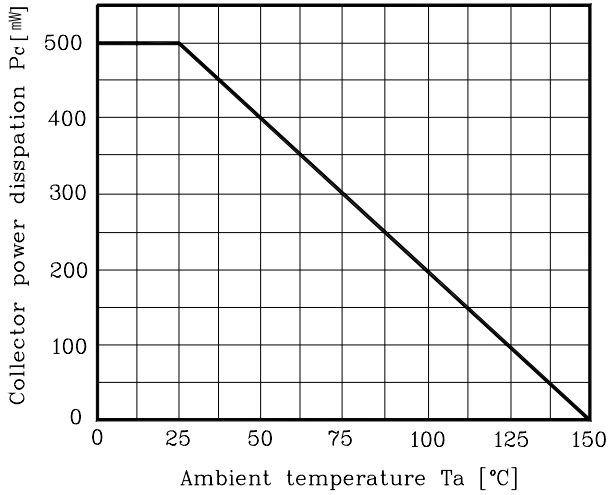
Electrical Characteristics [Tr2]

(Ta=25°C)

Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Collector-Base breakdown voltage	BV_{CBO}	$I_C=-10\mu A, I_E=0$	-60	-	-	V
Collector-Emitter breakdown voltage	BV_{CEO}	$I_C=-1mA, I_B=0$	-40	-	-	V
Emitter-Base breakdown voltage	BV_{EBO}	$I_E=-10\mu A, I_C=0$	-5	-	-	V
Collector cut-off current	I_{CBO}	$V_{CB}=-40V, I_E=0$	-	-	-20	nA
DC current gain	h_{FE}	$V_{CE}=-10V, I_C=-10mA$	100	-	-	-
Collector-Emitter saturation voltage	$V_{CE(sat)}$	$I_C=-150mA, I_B=-15mA$	-	-	-0.4	V
Transition frequency	f_T	$V_{CE}=-5.0V, I_C=-20mA, f=100MHz$	200	-	-	MHz
Collector output capacitance	C_{ob}	$V_{CB}=-10V, I_E=0, f=1MHz$	-	-	8	pF
Turn-on time	t_{on}	$V_{CC}=-30V_{dcr}, I_C=-150mA_{dcr}, I_{B1}=-15mA_{dc}$	-	-	45	ns
Delay time	t_d		-	-	10	ns
Rise time	t_r		-	-	40	ns
Turn-off time	t_{off}	$V_{CC}=-6.0V_{dcr}, I_C=-150mA_{dcr}, I_{B1}=I_{B2}=-15mA_{dc}$	-	-	100	ns
Storage time	t_s		-	-	80	ns
Fall time	t_f		-	-	30	ns

Electrical Characteristic Curves

Fig. 1 P_c - T_a



[Tr1]

Fig. 2 h_{FE} - I_C

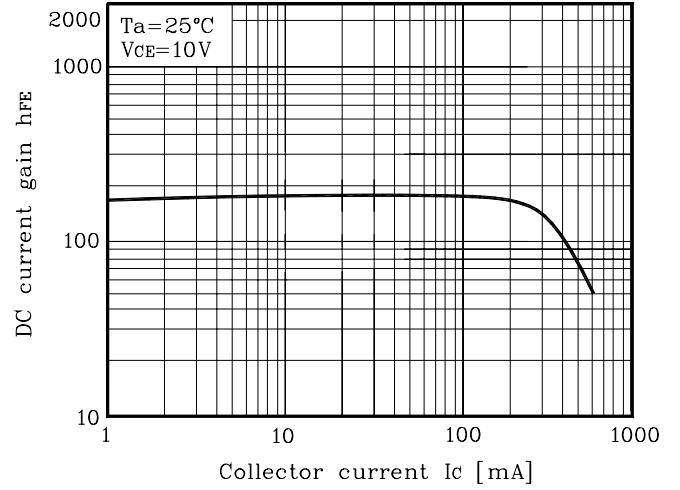


Fig. 3 $V_{CE(sat)}$ - I_C

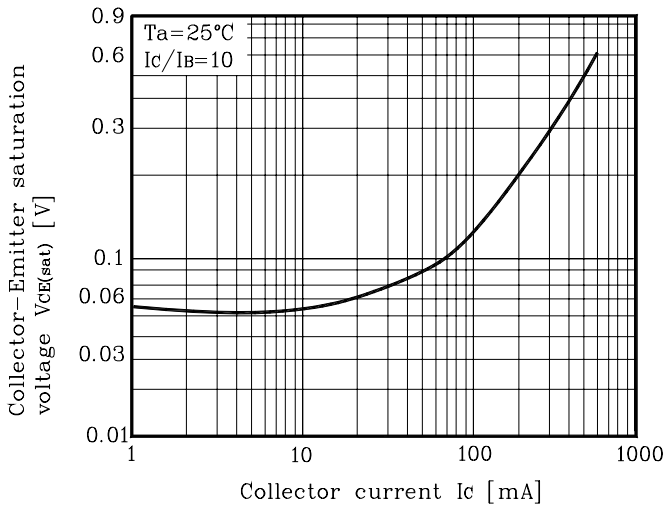
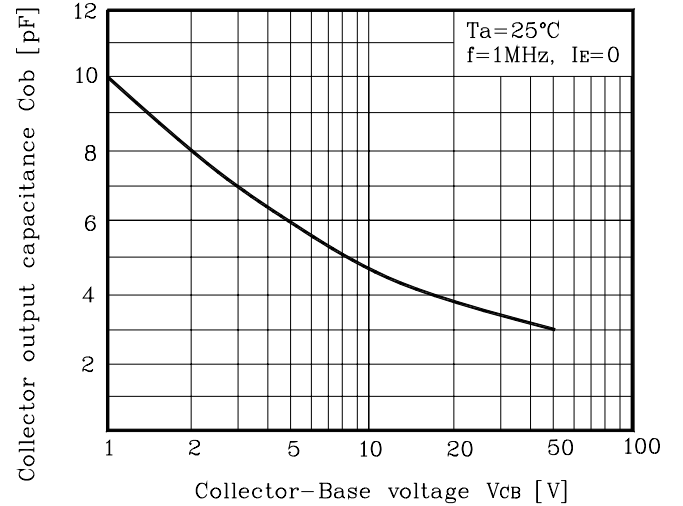


Fig. 4 C_{ob} - V_{CB}



[Tr2]

Fig. 5 h_{FE} - I_C

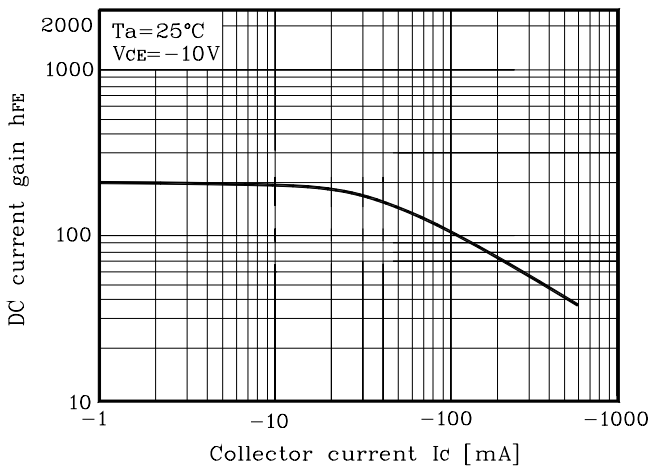
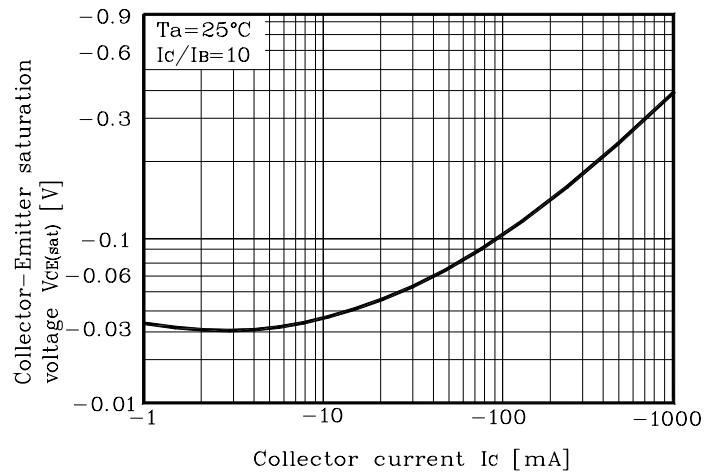
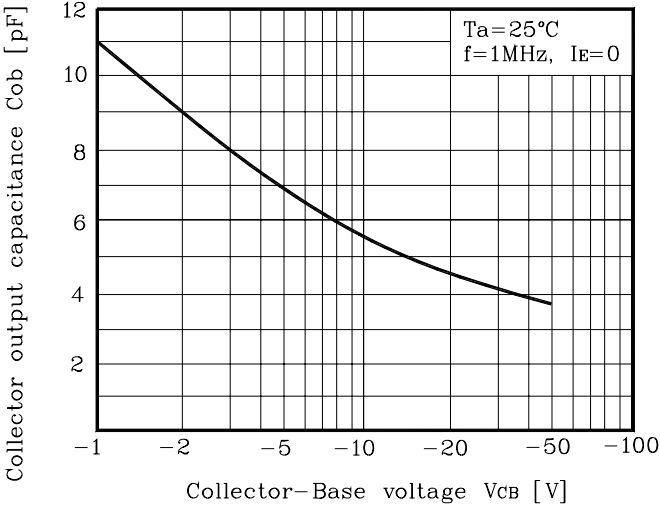


Fig. 6 $V_{CE(sat)}$ - I_C

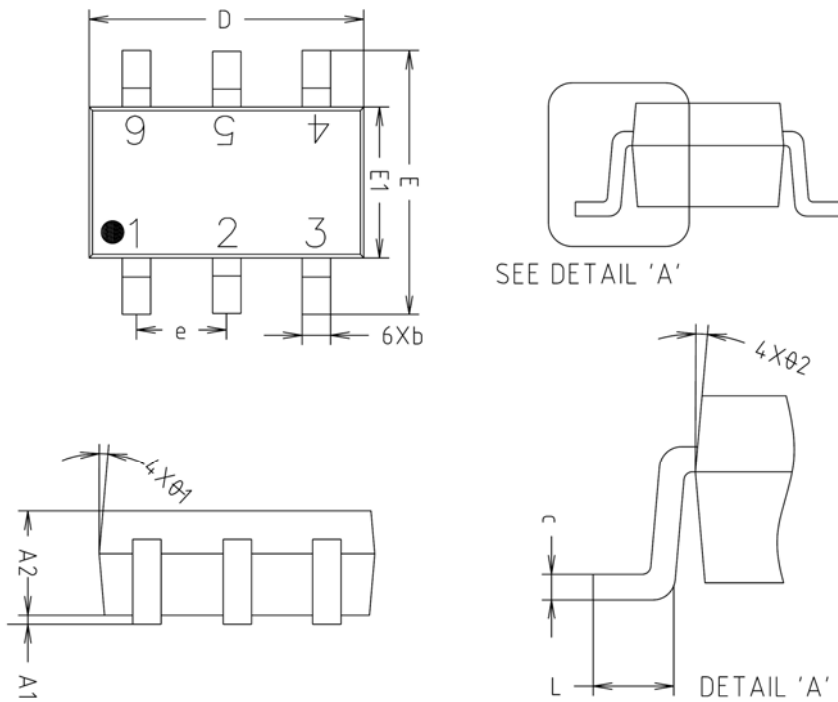


Electrical Characteristic Curves

Fig. 7 $C_{ob}-V_{CB}$

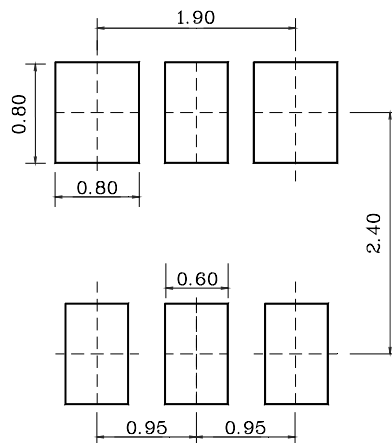


SOT-26 Outline Dimension(mm)



SYMBOL	MILLIMETERS(mm)			NOTE
	MINIMUM	NOMINAL	MAXIMUM	
A1	0.000	0.050	0.100	
A2	1.000	1.100	1.200	
b	-	0.400	0.450	
c	0.110	0.150	0.190	
D	2.800	2.900	3.000	
E	2.600	2.800	3.000	
E1	1.500	1.600	1.700	
e	0.930	0.950	0.970	
L	0.400	-	-	
$\theta1$	5° REF			
$\theta2$	5° REF			

※ Recommend PCB solder land [Unit: mm]



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