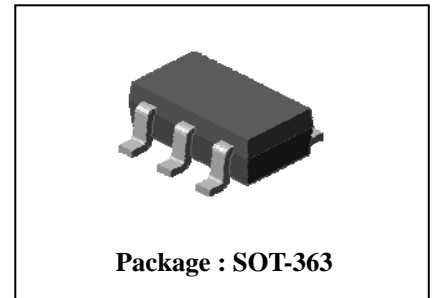


Description

- Complex type bipolar transistor

Feature

- Small package save PCB area
- Reduce quantity of parts and mounting cost
- Two SBT3904 chips in SOT-363 package

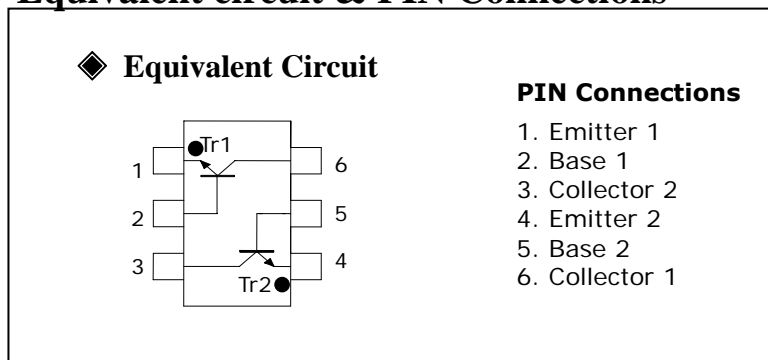


Ordering Information

Type NO.	Marking	Package Code
SUT390J	ZZ□	SOT-363

□ : Year & Week Code

Equivalent circuit & PIN Connections



Absolute Maximum Ratings [Tr1, Tr2]

(Ta=25°C)

Characteristic	Symbol	Rating	Unit
Collector-base voltage	V_{CBO}	60	V
Collector-emitter voltage	V_{CEO}	40	V
Emitter-base voltage	V_{EBO}	6	V
Collector current	I_C	200	mA
Collector power dissipation	*P_C	200	mW
Junction temperature	T_J	150	°C
Storage temperature range	T_{stg}	-55 ~ 150	°C

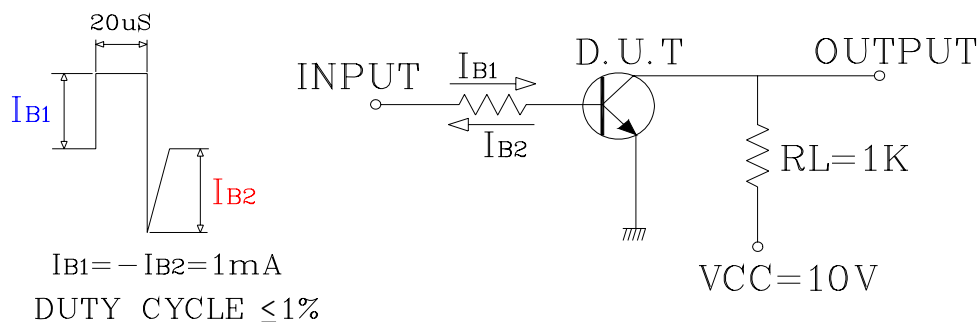
※: Total rating

Electrical Characteristics [Tr1, 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}	$I_E=10\mu A, I_C=0$	6	-	-	V
Collector cut-off current	I_{CEX}	$V_{CE}=30V, V_{EB}=3V$	-	-	50	nA
DC current gain	h_{FE}	$V_{CE}=1V, I_C=10mA$	100	-	300	-
Collector-Emitter saturation voltage	$V_{CE(sat)}$	$I_C=50mA, I_B=5mA$	-	-	0.3	V
Transition frequency	f_T	$V_{CE}=20V, I_C=10mA, f=100MHz$	300	-	-	MHz
Collector output capacitance	C_{ob}	$V_{CB}=5V, I_E=0, f=1MHz$	-	4	-	pF
Delay time	t_d	* $V_{CC}=10V, I_C=10mA$ $I_{B1}=-I_{B2}=1mA$	-	35	-	ns
Rise time	t_r		-	35	-	ns
Storage time	t_{stg}		-	200	-	ns
Fall Time	t_f		-	50	-	ns

※ Switching Time Test Circuit.



Electrical Characteristic Curves

[Tr1, Tr2]

Fig. 1 $I_C - V_{BE}$

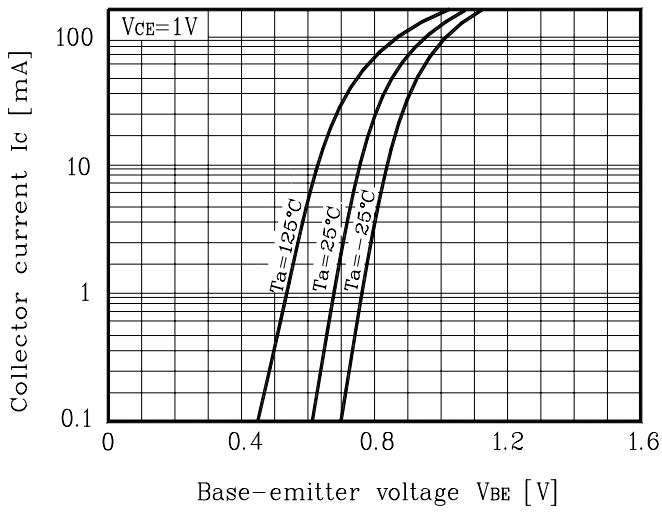


Fig. 2 $I_C - V_{CE}$

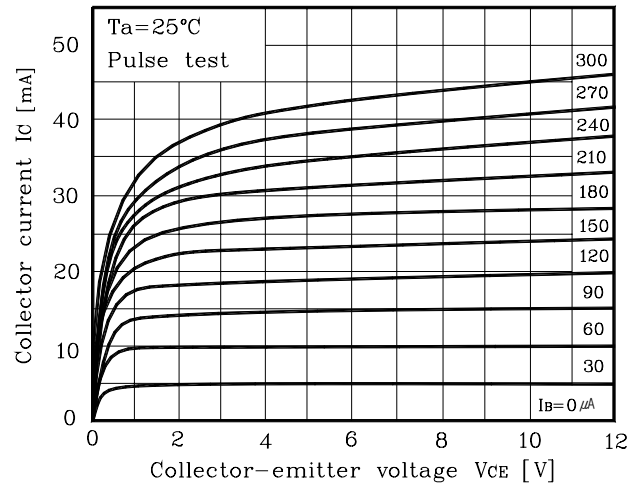


Fig. 3 $h_{FE} - I_C$

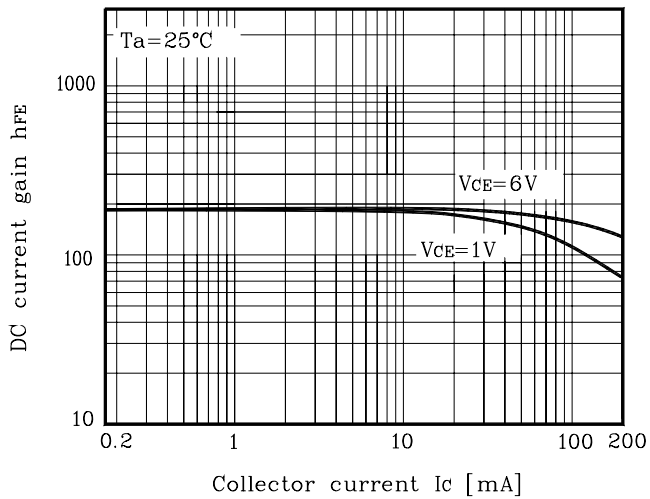
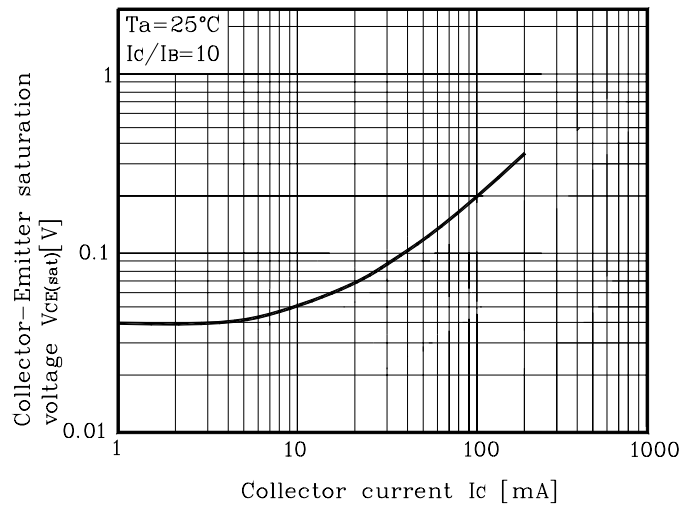
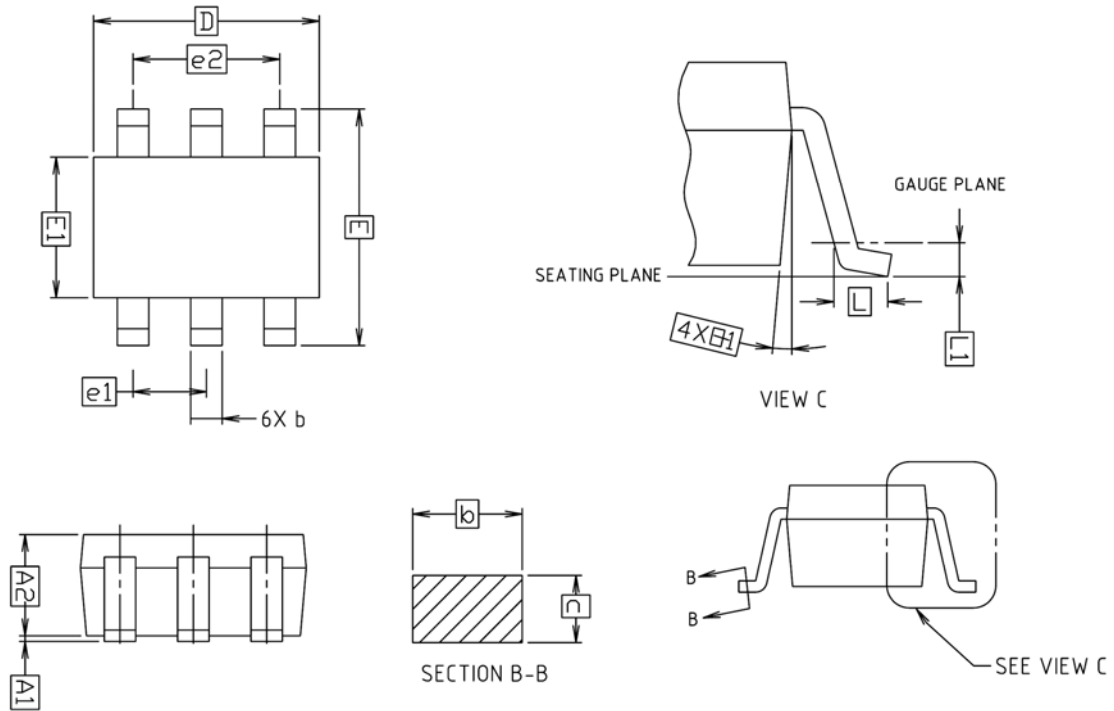


Fig. 4 $V_{CE(SAT)} - I_C$

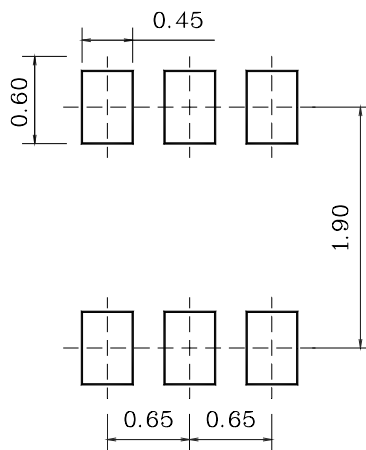


Outline Dimension



SYMBOL	MILLIMETERS			NOTE
	MINIMUM	NOMINAL	MAXIMUM	
A1	0.00	-	0.10	
A2	0.90	0.95	1.00	
b	0.25	-	0.40	
c	0.10	-	0.25	
D	1.90	2.00	2.10	
E	1.95	2.10	2.25	
E1	1.15	1.25	1.35	
e1	0.65 BSC			
e2	1.30 BSC			
L	0.25	-	-	
L1	0.15 BSC			

※ Recommend PCB solder land [Unit: mm]



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