



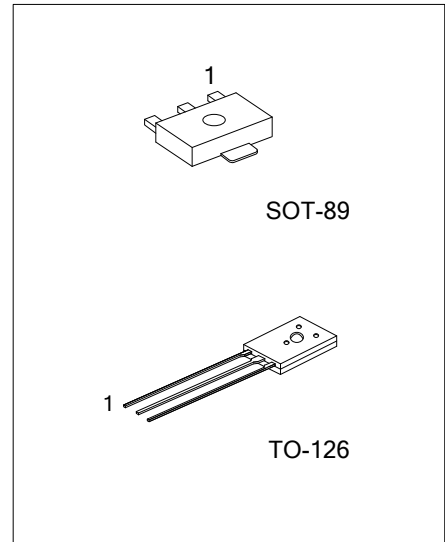
## 2SB824

## PNP SILICON TRANSISTOR

### PNP PLANAR SILICON TRANSISTOR

#### FEATURES

\* Low collector-to-emitter saturation voltage:  
 $V_{CE(SAT)} = -0.4V \text{ max} / I_C = -3A, I_B = -0.3A$



Lead-free: 2SB772SL  
 Halogen-free: 2SB772SG

#### ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
2SB824L-x-AB3-R	2SB824G-x-AB3-R	SOT-89	B	C	E	Tape Reel
2SB824L-x-T60-K	2SB824G-x-T60-K	TO-126	B	C	E	Bulk

<p>2SB824L-x-AB3-R</p>	<p>(1) K: Bulk, R: Tape Reel          (2) T60: TO-126, AB3: SOT-89          (3) x: refer to Classification of <math>h_{FE1}</math>          (4) G: Halogen Free, L: Lead Free</p>
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### ■ ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

PARAMETER		SYMBOL	RATINGS	UNIT
Collector to Base Voltage		$V_{CBO}$	-60	V
Collector to Emitter Voltage		$V_{CEO}$	-50	V
Emitter to Base Voltage		$V_{EBO}$	-6	V
Collector Current		$I_C$	-5	A
Collector Current (Pulse)		$I_{CP}$	-9	A
Collector Dissipation	SOT-89	$P_C$	500	mW
	TO-126		1	W
Junction Temperature		$T_J$	+150	°C
Storage Temperature		$T_{STG}$	-40 ~ +150	°C

Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.

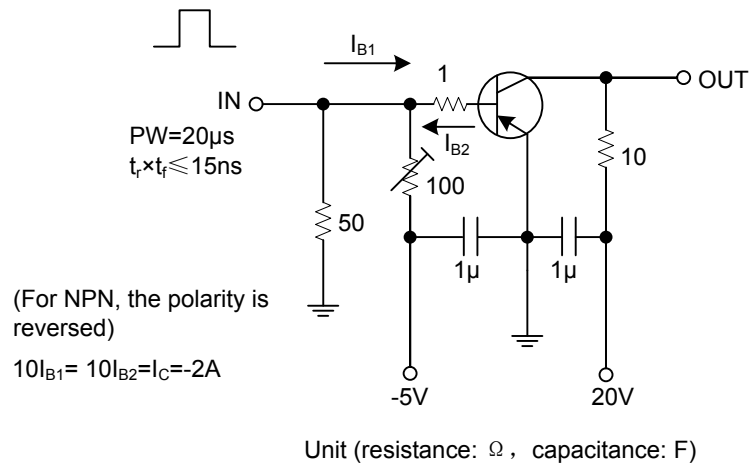
### ■ ELECTRICAL CHARACTERISTICS (Ta=25°C)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-to-Base Breakdown Voltage	$BV_{CBO}$	$I_C = -1mA, I_E = 0$	-60			V
Collector-to-Emitter Breakdown Voltage	$BV_{CEO}$	$I_C = -1mA, R_{BE} = \infty$	-50			V
Emitter-to-Base Breakdown Voltage	$BV_{EBO}$	$I_C = 0, I_E = -1mA$	-6			V
Collector Cut-Off Current	$I_{CBO}$	$V_{CB} = -40V, I_E = 0$			-0.1	mA
Emitter Cut-Off Current	$I_{EBO}$	$V_{EB} = -4V, I_C = 0$			-0.1	mA
DC Current Gain	$h_{FE1}$	$V_{CE} = -2V, I_C = -1A$	70		360	
	$h_{FE2}$	$V_{CE} = -2V, I_C = -3A$	30			
Gain Bandwidth Product	$f_T$	$V_{CE} = -5V, I_C = -1A$		30		MHZ
Output Capacitance	$C_{ob}$	$V_{CB} = -10V, f = 1MHz$		100		pF
Collector-to-Emitter Saturation Voltage	$V_{CE(SAT)}$	$I_C = -3A, I_B = -0.3A$			-0.4	V
Turn-ON Time	$t_{ON}$	See specified test circuit		0.1		μs
Storage Time	$t_{STG}$	See specified test circuit		1.4		μs
Fall Time	$t_F$	See specified test circuit		0.2		μs

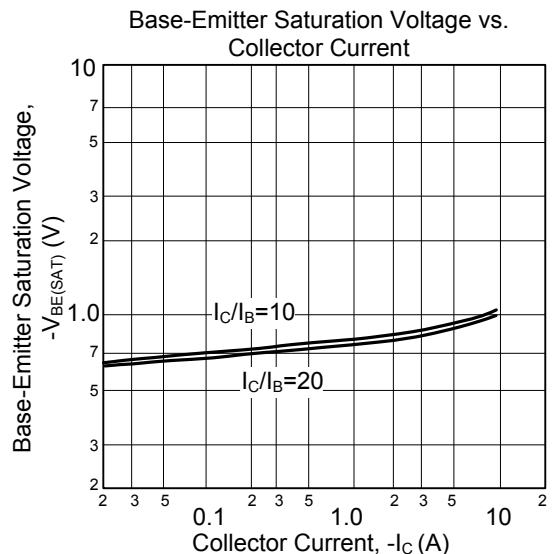
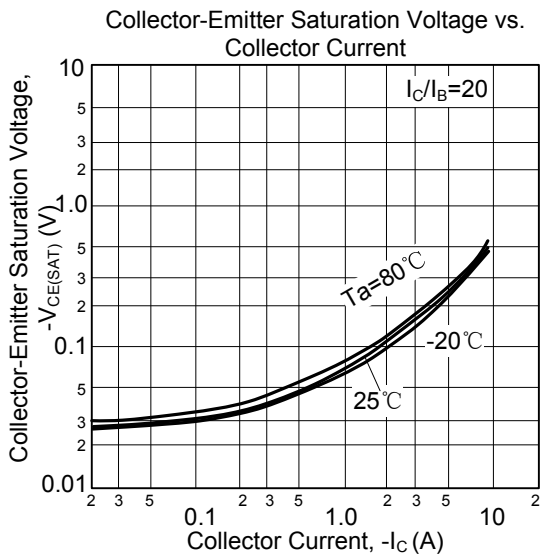
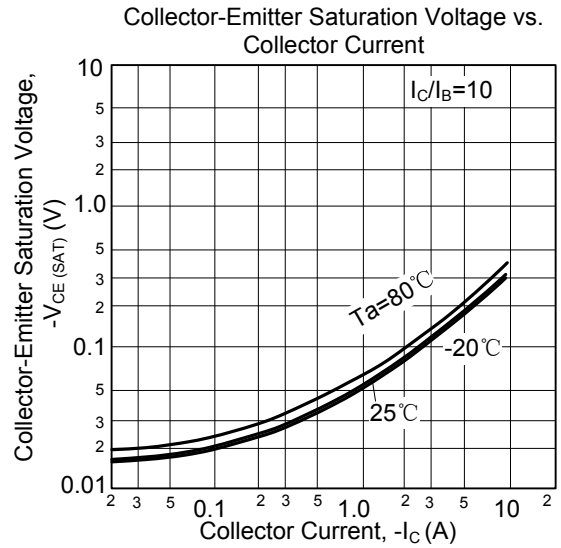
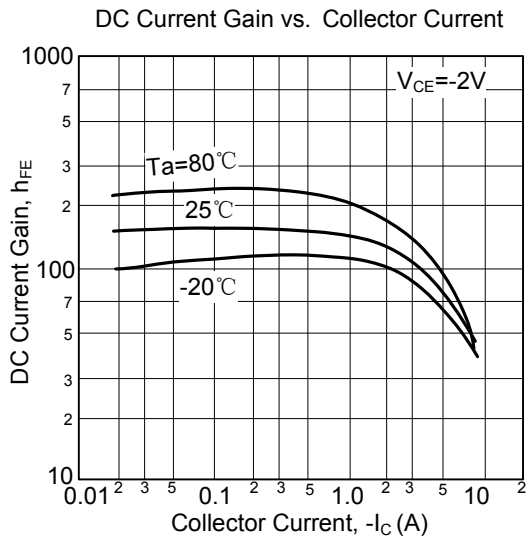
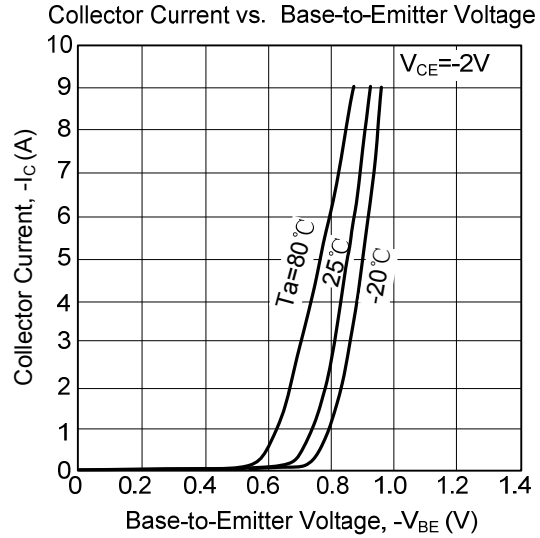
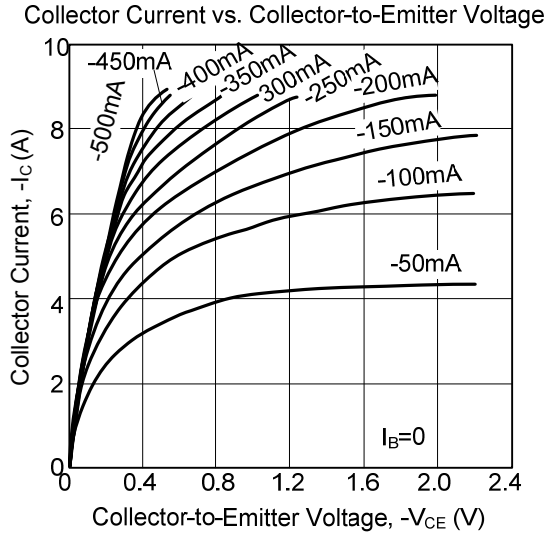
### ■ CLASSIFICATION of $h_{FE1}$

RANK	Q	R	S
RANGE	70-140	100-200	180-360

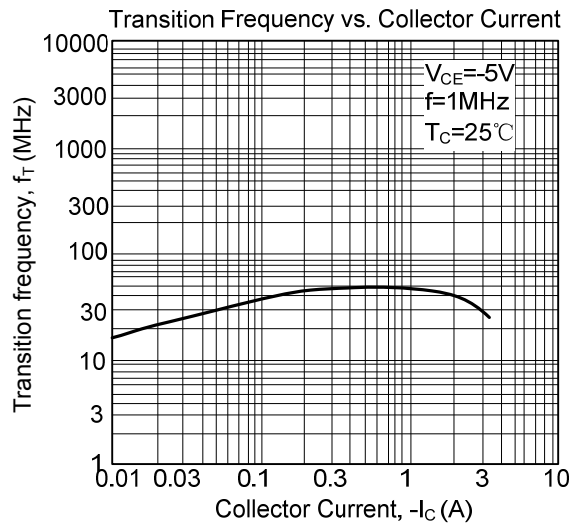
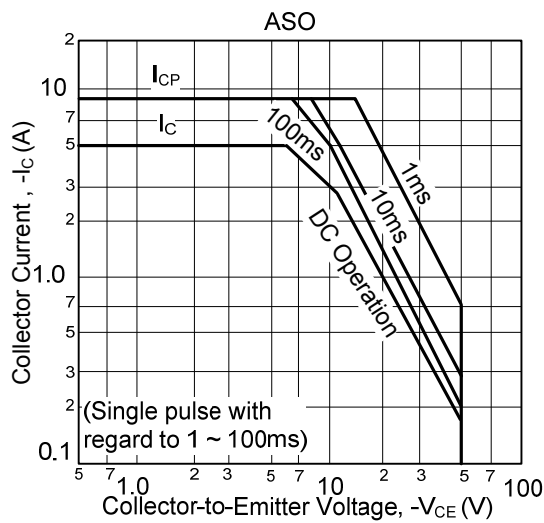
## SWITCHING TIME TEST CIRCUIT



## TYPICAL CHARACTERISTICS



■ TYPICAL CHARACTERISTICS(Cont.)



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