



## SSCN846-847-848GS6

### NPN Switching Transistor

#### ➤ Description

This product is general usage and suitable for many different applications. It can be used for medium power amplifiers and switches requiring collector currents up to 100 mA.

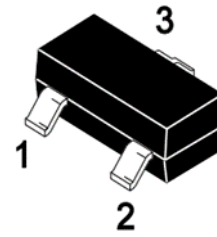
#### ➤ Features

- Ideally suited for automatic insertion
- For Switching and AF Amplifier Applications

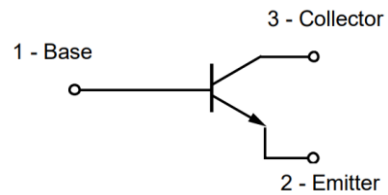
#### ➤ Ordering Information

Device	Marking	Package	Shipping
SSCN846AGS6	1A	SOT-23	3000/Reel
SSCN846BGS6	1B		
SSCN847AGS6	1E		
SSCN847BGS6	1F		
SSCN847CGS6	1G		
SSCN848AGS6	1J		
SSCN848BGS6	1K		
SSCN848CGS6	1L		

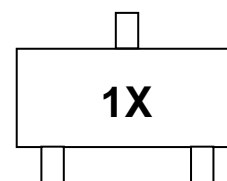
#### ➤ Pin configuration



**SOT-23**



**Circuit Diagram**



**Marking (Top View)**



# SSCN846-847-848GS6

## ➤ Absolute Maximum Ratings( $T_A=25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Symbol	Value	Unit
Collector-Base Voltage	$V_{CBO}$	846	80
		847	50
		848	30
Collector- Emitter Voltage	$V_{CEO}$	846	65
		847	45
		848	30
Emitter-Base Voltage	$V_{EBO}$	6	V
Collector Current-Continuous	$I_C$	100	mA
Collector Power Dissipation	$P_C$	200	mW
Thermal Resistance From Junction To Ambient	$R_{\theta JA}$	625	$^{\circ}\text{C}/\text{W}$
Junction Temperature	$T_J$	150	$^{\circ}\text{C}$
Storage Temperature	$T_{STG}$	-55 to 150	$^{\circ}\text{C}$

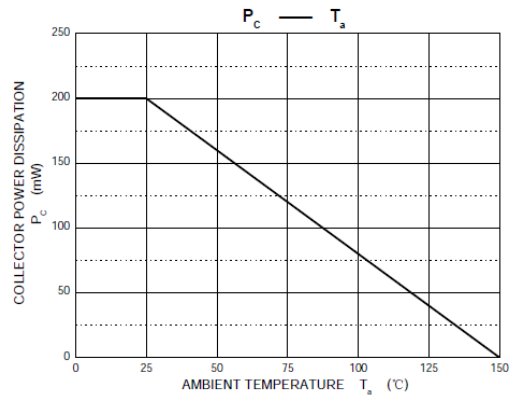
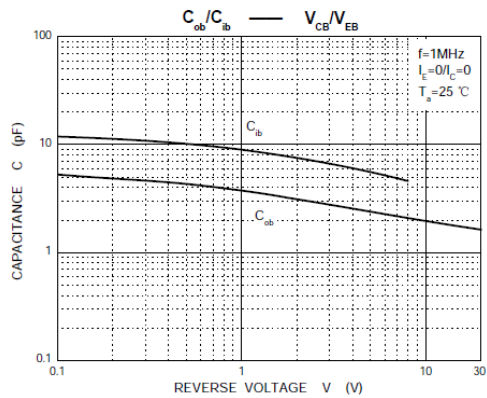
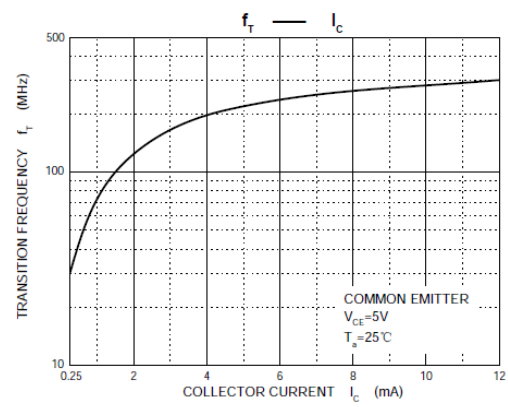
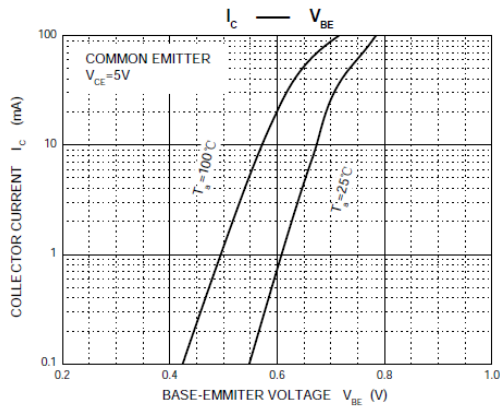
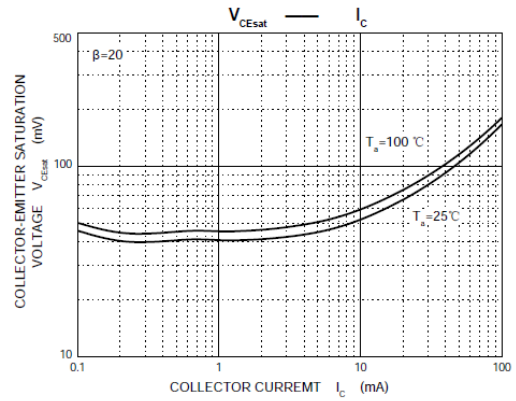
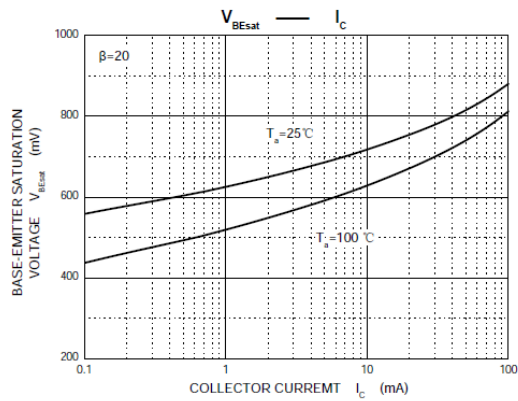
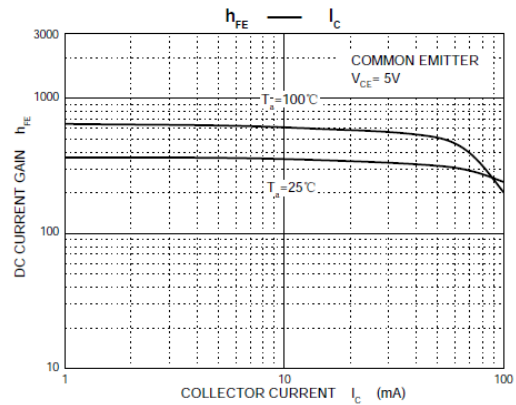
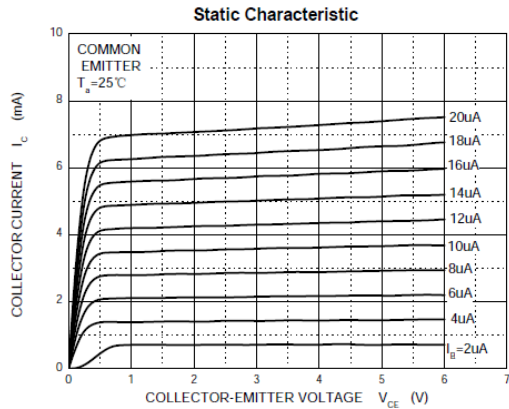
## ➤ Electrical Characteristics ( $T_A=25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Collector-Base Breakdown Voltage	$BV_{CBO}$	$I_C=10\mu\text{A}, I_E=0$	846	80		V
			847	50		
			848	30		
Collector-emitter Breakdown Voltage	$BV_{CEO}$	$I_C=10\text{mA}, I_B=0$	846	65		V
			847	45		
			848	30		
Emitter -Base Breakdown Voltage	$BV_{EBO}$	$I_E=10\mu\text{A}, I_C=0$	6			V
Collector Cutoff Current	$I_{CBO}$	$V_{CB}=70\text{V}, I_E=0$ $V_{CB}=50\text{V}, I_E=0$ $V_{CB}=30\text{V}, I_E=0$	846		0.1	$\mu\text{A}$
			847			
			848			
Emitter Cutoff Current	$I_{EBO}$	$V_{EB}=5\text{V}, I_C=0$			100	nA
DC Current Gain	$h_{FE}$	$V_{CE}=5\text{V}, I_C=2\text{mA}$	846A, 847A, 848A	110	220	
			846B, 847B, 848B	200	450	
			847C, 848C	420	800	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=100\text{mA}, I_B=5\text{mA}$			0.5	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=100\text{mA}, I_B=5\text{mA}$			1.1	V
Collector Capacitance	$C_{ob}$	$V_{CB}=10\text{V}, f=1\text{MHz}$			4.5	pF
Transition frequency	$f_T$	$V_{CE}=5\text{V}, I_C=10\text{mA}$ $f=100\text{MHz}$	100			MHz



# SSCN846-847-848GS6

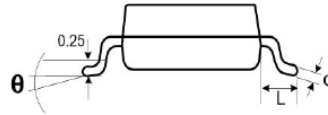
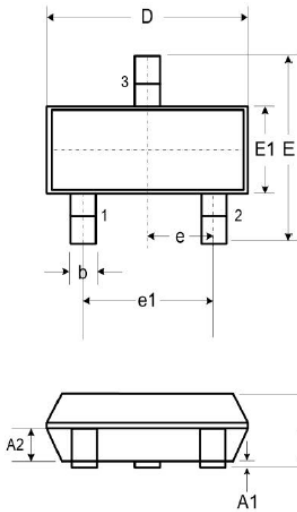
## ➤ Typical Performance Characteristics ( $T_A=25^\circ\text{C}$ unless otherwise noted)





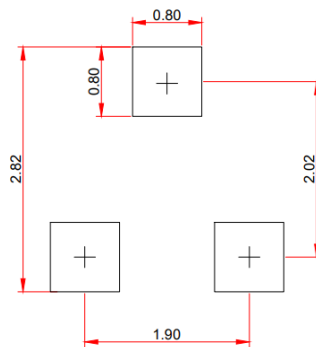
## ➤ Package Information

### SOT-23



DIM	Millimeters		
	Min.	Typ.	Max.
A	0.89	-	1.12
A1	0.01	-	0.10
A2	0.88	0.95	1.02
b	0.30	-	0.51
c	0.08	-	0.18
D	2.80	2.90	3.04
E	2.10	2.37	2.64
E1	1.20	1.30	1.40
e	0.95		
e1	1.90		
L	0.40	0.50	0.60
L1	0.55		
N	3		
$\theta$	0°	-	8°

### Recommended Pad outline (Unit: mm)





## DISCLAIMER

SSCSEMI RESERVES THE RIGHT TO MAKE CHANGES WITHOUT FURTHER NOTICE TO ANY PRODUCTS HEREIN TO IMPROVE RELIABILITY, FUNCTION OR DESIGN. SSCSEMI DOES NOT ASSUME ANY LIABILITY ARISING OUT OF THE APPLICATION OR USE OF ANY PRODUCT OR CIRCUIT DESCRIBED HEREIN; NEITHER DOES IT CONVEY ANY LICIENCE UNDER ITS PATENT RIGHTS, NOR THE RIGHTS OF OTHERS.

THE GRAPHS PROVIDED IN THIS DOCUMENT ARE STATISTICAL SUMMARIES BASED ON A LIMITED NUMBER OF SAMPLES AND ARE PROVIDED FOR INFORMATIONAL PURPOSE ONLY. THE PERFORMANCE CHARACTERISTICS LISTED IN THEM ARE NOT TESTED OR GUARANTEED. IN SOME GRAPHS, THE DATA PRESENTED MAY BE OUTSIDE THE SPECIFIED OPERATING RANGE (E.G. OUTSIDE SPECIFIED POWER SUPPLY RANGE) AND THEREFORE OUTSIDE THE WARRANTED RANGE.

OUR PRODUCT SPECIFICATIONS ARE ONLY VALID IF OBTAINED THROUGH THE COMPANY'S OFFICIAL WEBSITE, CRM SYSTEM, OR OUR SALES PERSONNEL CHANNELS. IF CHANGES OR SPECIAL VERSIONS ARE INVOLVED, THEY MUST BE STAMPED WITH A QUALITY SEAL AND MARKED WITH A SPECIAL VERSION NUMBER TO BE VALID.