



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.

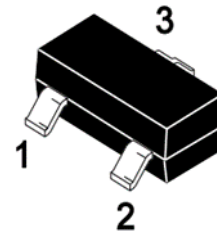
➤ Features

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

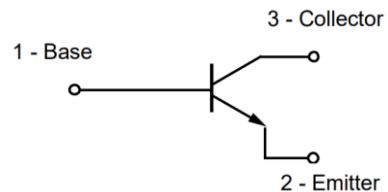
➤ Ordering Information

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

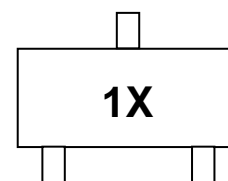
➤ Pin configuration



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	846	80	V
	847	50	
	848	30	
Collector- Emitter Voltage	846	65	V
	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	$^\circ\text{C}$

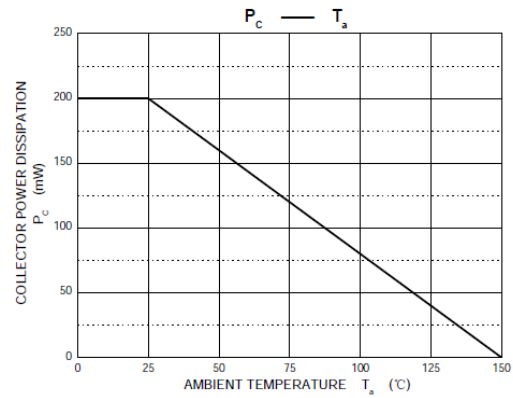
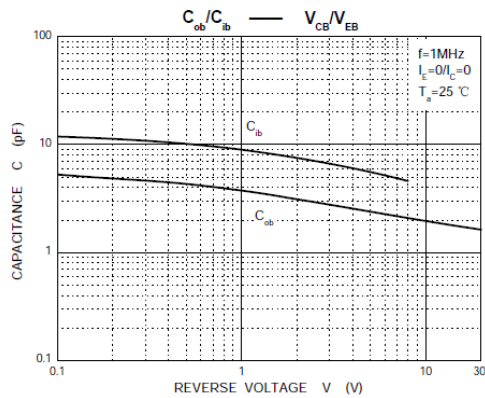
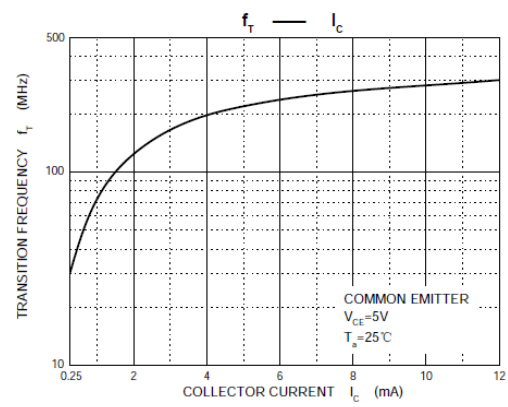
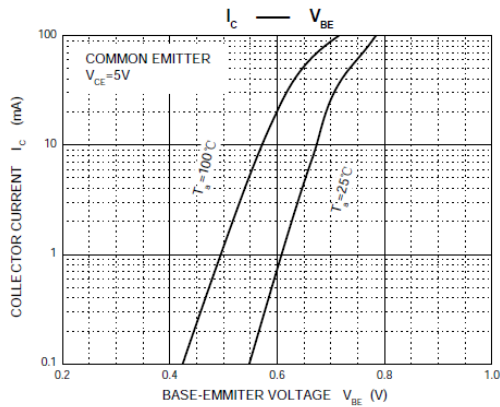
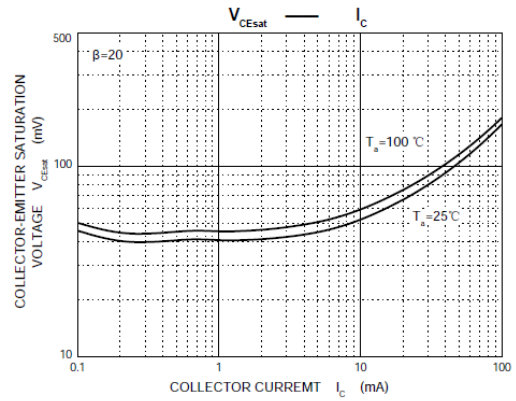
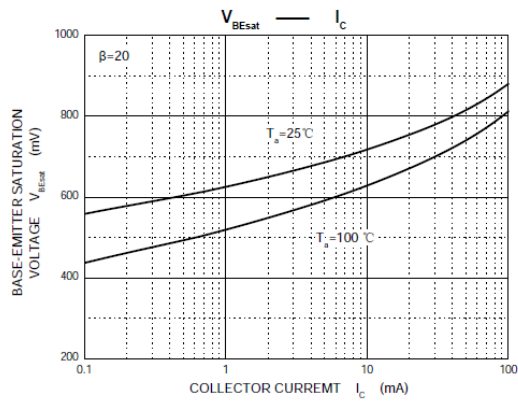
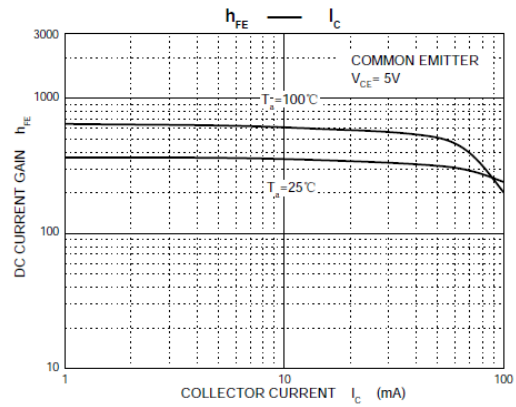
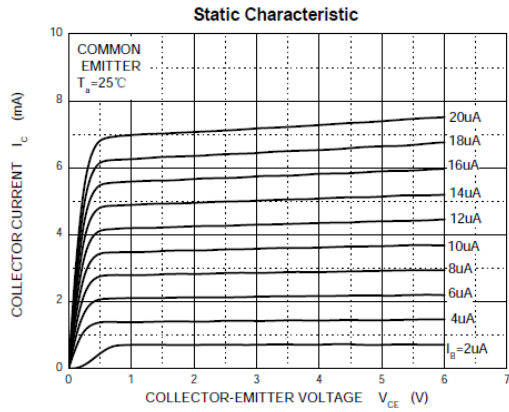
➤ Electrical Characteristics ($T_A=25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Collector-Base Breakdown Voltage	846	$I_C=10\mu\text{A}, I_E=0$	80			V
	847		50			
	848		30			
Collector-emitter Breakdown Voltage	846	$I_C=10\text{mA}, I_B=0$	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	846	$V_{CB}=70\text{V}, I_E=0$			0.1	μA
	847		$V_{CB}=50\text{V}, I_E=0$			
	848		$V_{CB}=30\text{V}, I_E=0$			
Emitter Cutoff Current	I_{EBO}	$V_{EB}=5\text{V}, I_C=0$			100	nA
DC Current Gain	846A, 847A, 848A	$V_{CE}=5\text{V}, I_C=2\text{mA}$	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

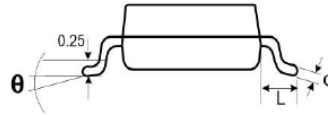
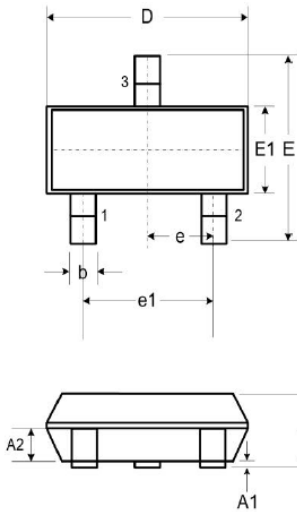
➤ Typical Performance Characteristics ($T_A=25^\circ\text{C}$ unless otherwise noted)





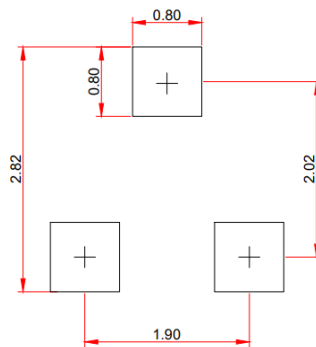
➤ Package Information

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	1.90		
e1	0.95		
L	0.40	0.50	0.60
L1	0.55		
N	3		
θ	0°	-	8°

Recommended Pad outline (Unit: mm)





DISCLAIMER

AFSEMI RESERVES THE RIGHT TO MAKE CHANGES WITHOUT FURTHER NOTICE TO ANY PRODUCTS HEREIN TO IMPROVE RELIABILITY, FUNCTION OR DESIGN. AFSEMI 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.