



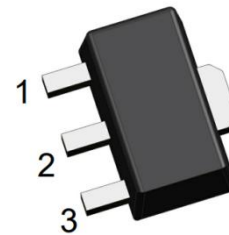
SSCN1766QGS3

NPN Plastic-Encapsulate Transistors

➤ Description

This product has the characteristics of high current and high-power consumption. It is universal and suitable for many different applications. It can be used for power amplifiers and switches that require collector currents up to 2A.

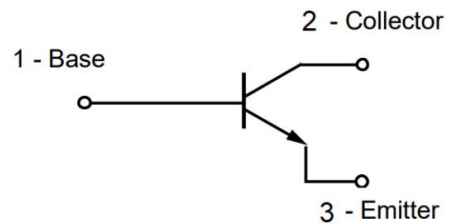
➤ Pin configuration



SOT-89-3L

➤ Features

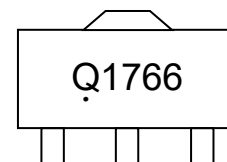
- Driver stages of audio amplifiers
- Linear voltage regulators
- Low-side switches
- Battery-driven devices
- Power management
- MOSFET drivers



Circuit Diagram

➤ Ordering Information

Device	Package	Shipping
SSCN1766QGS3	SOT-89	1000/Reel



Marking (Top View)



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

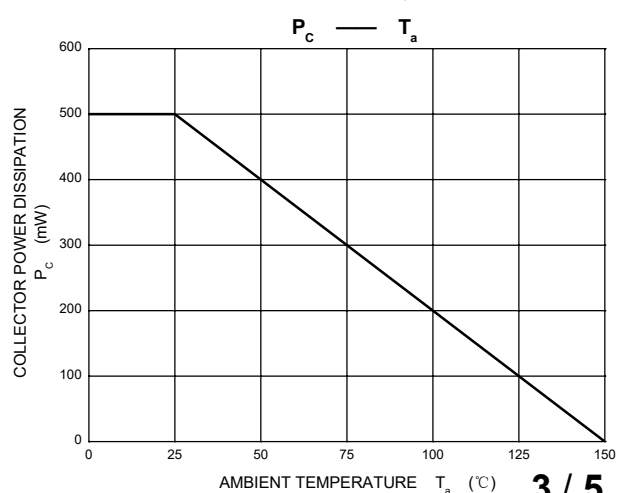
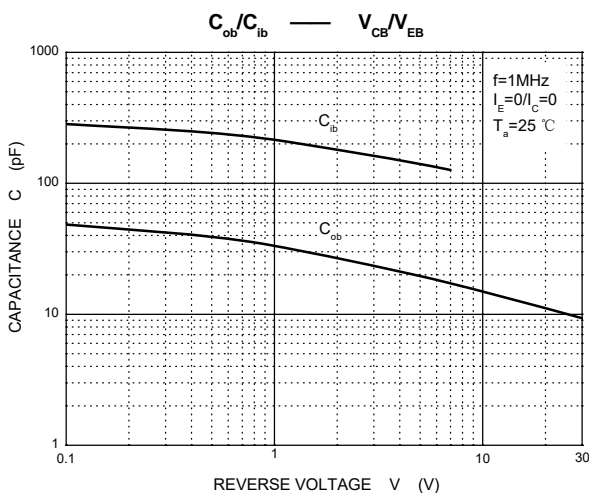
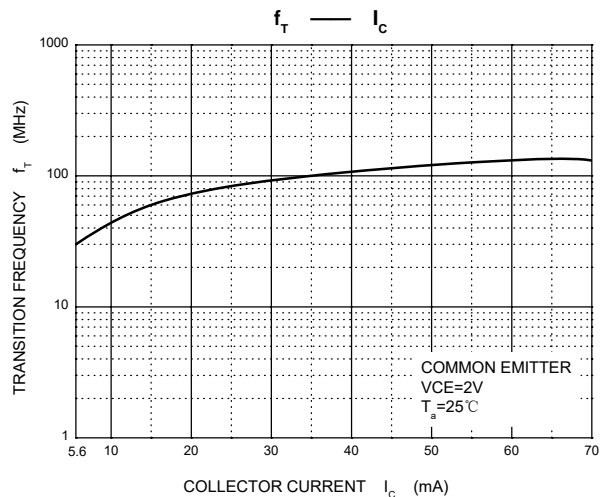
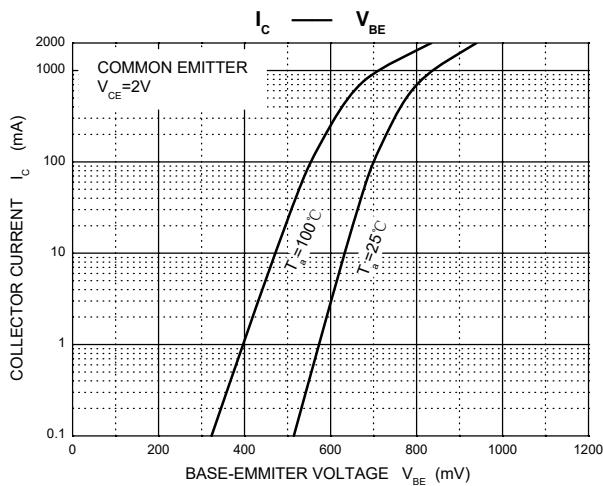
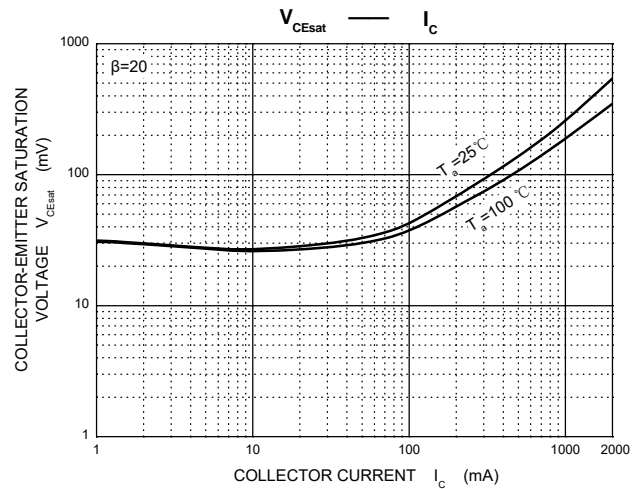
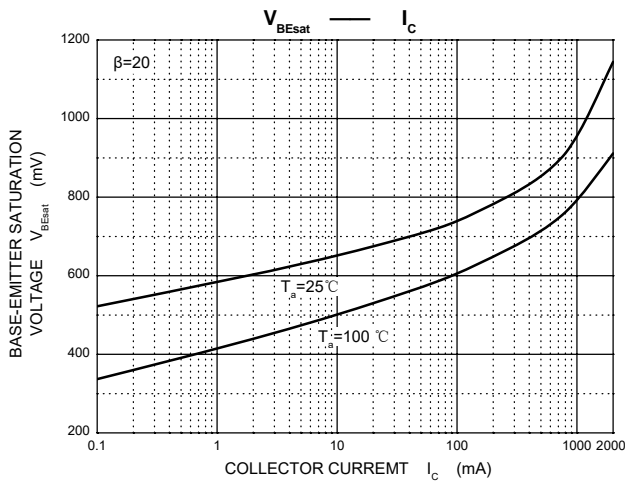
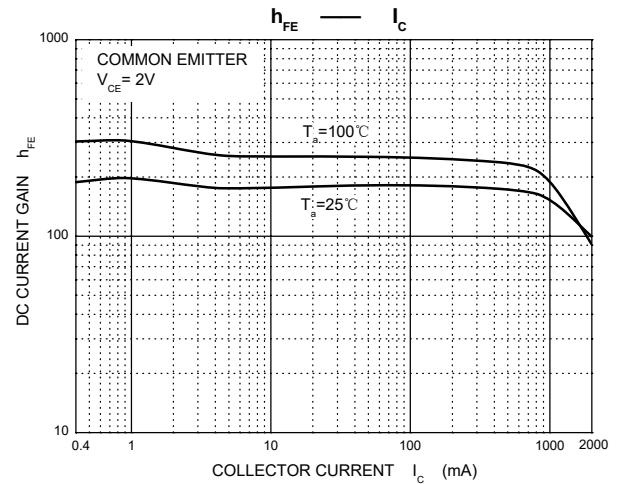
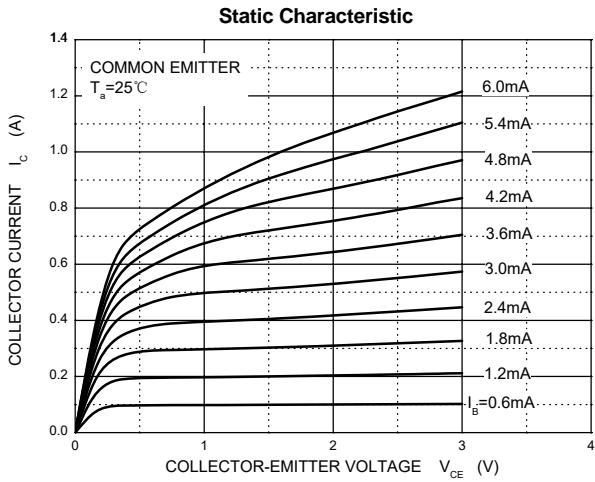
Parameter	Symbol	Value	Unit
Collector-Base Voltage	V_{CB0}	50	V
Collector- Emitter Voltage	V_{CEO}	50	V
Emitter-Base Voltage	V_{EBO}	5	V
Collector Current-Continuous	I_C	2	A
Collector Power Dissipation	P_C	500	mW
Thermal Resistance From Junction To Ambient	$R_{\theta JA}$	250	$^\circ\text{C}/\text{W}$
Junction Temperature	T_J	-55 to 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)**

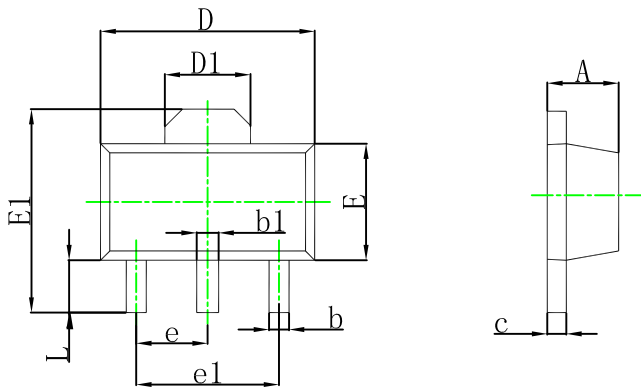
Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Collector-Base Breakdown Voltage	BV_{CB0}	$I_C=100\mu\text{A}, I_E=0$	50			V
Collector-emitter Breakdown Voltage	BV_{CEO}	$I_C=1\text{mA}, I_B=0$	50			V
Emitter -Base Breakdown Voltage	BV_{EBO}	$I_E=100\mu\text{A}, I_C=0$	5			V
Collector Cutoff Current	I_{CB0}	$V_{CB}=50\text{V}, I_E=0$			100	nA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=5\text{V}, I_C=0$			100	nA
DC Current Gain	h_{FE1}	$V_{CE}=2\text{V}, I_C=0.5\text{A}$	120		270	
DC Current Gain	H_{FE2}	$V_{CE}=2\text{V}, I_C=2\text{A}$	20			
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=1\text{A}, I_B=50\text{mA}$			0.5	V
Base-Emitter Voltage	$V_{BE(sat)}$	$I_C=1\text{A}, I_B=50\text{mA}$			1.2	V
Transition frequency	f_T	$V_{CE}=2\text{V}, I_C=0.5\text{A}$ $f=100\text{MHz}$		120		MHz



Typical Performance Characteristics (T_A=25°C unless otherwise noted)

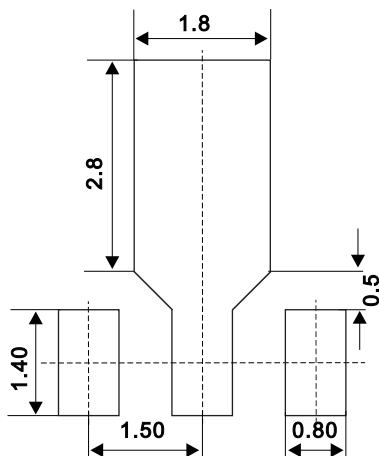


➤ Package Information



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	1.	1.	0.	0.
b	4000.	6000.	0550.	0630.
b1	3200.	5200.	0130.	0200.
c	4000.	5800.	0160.	0230.
D	3504.	4404.	0140.	0170.
D1	1.550 REF.		0.061 REF.	
E	4002.	6002.	1730.	1810.
E1	3003.	6004.	0910.	1020.
e	940 1.500 TYP. 250		155 0.060 TYP. 167	
e1	3.000 TYP.		0.118 TYP.	
L	0.900	1.200	0.035	0.047

SOT-89-3L Suggested Pad Layout



Note:

1. Controlling dimension: in millimeters.
2. General tolerance: ± 0.05 mm.
3. The pad layout is for reference purposes only.



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.