SSC8P22CN2

N-Channel Enhancement Mode MOSFET

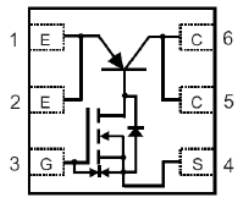
- **Features**

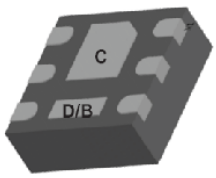
PNP Transistor

VCE	VBE	Vcesat max	Ic
-40v	-6v	-200mv	-3.0A

- **Applications**
  - Li Battery Charging

- **Pin configuration**



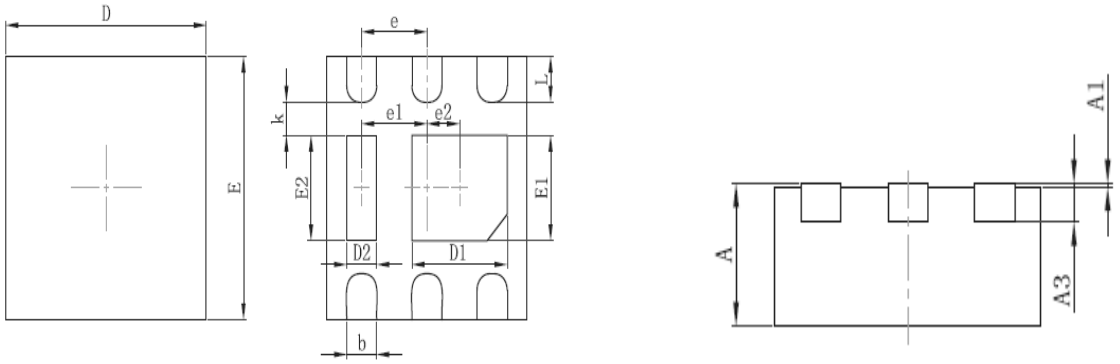


Pin configuration(Top view)

General Description

SSC8P22CN2 combines an N-Channel enhancement mode MOSFET and a Media Power PNP Transistor. The tiny and thin outline saves PCB consumption.

- **Package Information**



Symbol	Dimensions In Millimeters		
	Min.	Typ.	Max.
A	0.700		0.800
A1	0.000		0.050
A3		0.203 Ref.	
D	1.924	2.000	2.076
E	1.924	2.000	2.076
D1	0.850	0.950	1.050
E1	0.700	0.800	0.900
D2	0.200	0.300	0.400
E2	0.700	0.800	0.900
e1		0.650 Typ.	
e2		0.325 Typ.	
k		0.200 Min.	
b	0.250	0.300	0.350
e		0.650 Typ.	
L	0.300	0.350	0.400

- **Absolute Maximum Ratings @ TA = 25°C unless otherwise specified**

Parameter		Symbol	Ratings	Unit
Drain-Source Voltage		V_{DS}	20	V
Gate-Source Voltage		V_{GS}	±12	
Drain Current (Note 1)	Continuous	I_D	0.8	A
	Pulsed	I_{DM}	3	
Collector-Emitter Voltage		V_{CEO}	-30	V
Emitter-Base Voltage		V_{EBO}	-6	V
Collector Current(Note 1)	Continuous	I_C	-3	A
	Pulsed	I_{CM}	-12	
Power Dissipation Derating above T_A = 25°C (Note 1)		P_d	1350	mW
Junction and Storage Temperature Range		T_J, T_{STG}	-55 to +150	°C

Note1. Device mounted on FR-4 PCB, 1 inch x 0.85 inch x 0.062 inches. The rating is for each chip in the package.

- **Electrical Characteristics @ TA = 25°C unless otherwise specified**

Parameter (Note 2)	Symbol	Test Conditions	Min	Typ	Max	Unit
N-Channel mosfet						
Drain–Source Breakdown Voltage	$V_{(BR)DSS}$	V_{GS} = 0 V, I_D = 250μA	20	--	--	V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS} = 16V, V_{GS} = 0V	--	--	1	uA
Gate-Body Leakage	I_{GSS}	V_{GS} = ±12V, V_{DS} = 0V	--	--	±10	uA
Gate Threshold Voltage	$V_{GS(TH)}$	V_{DS} = V_{GS}, I_D = 250uA	0.35	0.6	1	V
Static Drain-Source On-Resistance	$R_{DS\ (ON)}$	I_D =0.5A,V_{GS} = 4.5V I_D = 0.5A,V_{GS} = 2.5V I_D = 0.35A,V_{GS} = 1.8V	-- -- --	255 390 520	450 765 850	mR
Turn-On Delay Time	$t_{d(on)}$	V_{DD} = -6V, R_L = 6R, I_D = −1A,	--	6	--	Ns
Turn-Off Delay Time	$t_{d(off)}$	V_{GEN} = -4.5V, R_G = 6R	--	28	--	
Input Capacitance	C_{ISS}	V_{DS} = -16V, V_{GS} = 0V, f = 200KHz	--	130	--	pF
Output Capacitance	C_{OSS}		--	20	--	
Reverse Transfer Capacitance	C_{RSS}		--	16	--	
Diode Forward Voltage(1)	V_{SD}	V_{GS} = 0 V, I_S = 150mA	--	0.68	1.2	V
PNP Transistor						
Collector-Base Breakdown Voltage	BV_{CBO}	I_C=-50uA，I_B=0mA	-40			V
Collector-Emitter Breakdown Voltage	BV_{CEO}	I_C=-1mA，I_E=0mA	-40			V
Emitter-Base Breakdown Voltage	BV_{EBO}	I_E=-50uA，I_C=0mA	-6			V
Collector cut off current	I_{CBO}	V_{CB}=-30V,I_E=0mA			100	nA
Emitter cut off current	I_{EBO}	V_{EB}=-5V,I_C=0mA			100	nA
DC Current Gain	HFE	VCE=-2V,IC=-500mA	100		350	
Collector-Emitter Saturation Voltage	V_{CESAT}	IC=-1.5A,IB=-80mA		0.15	-0.2	V

Note 2. Short duration test pulse used to minimize self-heating effect.

- **Thermal resistance ratings**

Parameter	Symbol	Value	Unit
Junction-to-Ambient Thermal Resistance [a]	RθJA	105	°C/W
Junction-to-Ambient Thermal Resistance [b]	RθJA	155	°C/W

- **Typical Performance Characteristics**

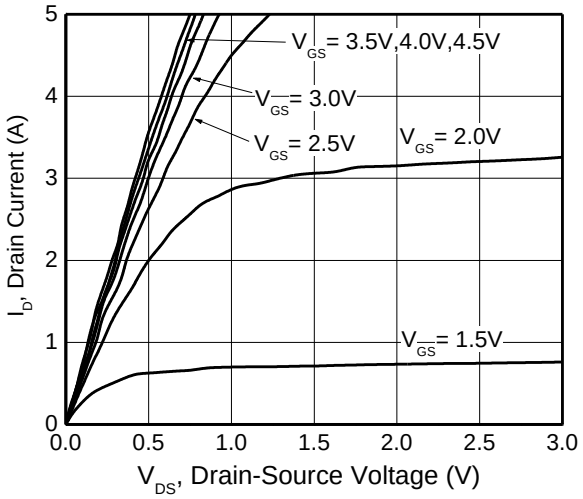


Figure 1. Output Characteristics

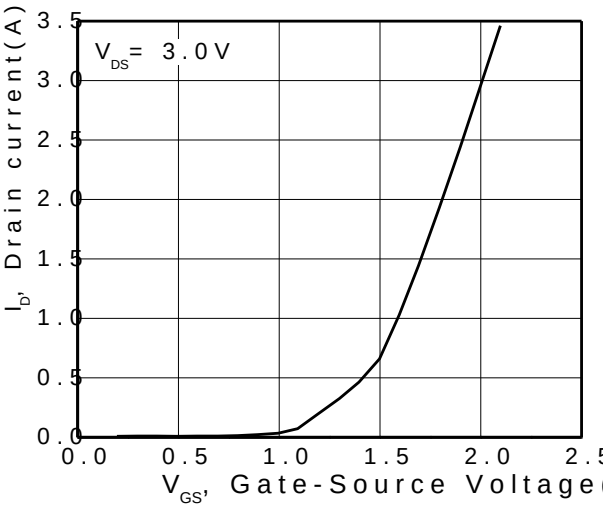


Figure 2. Transfer Charact

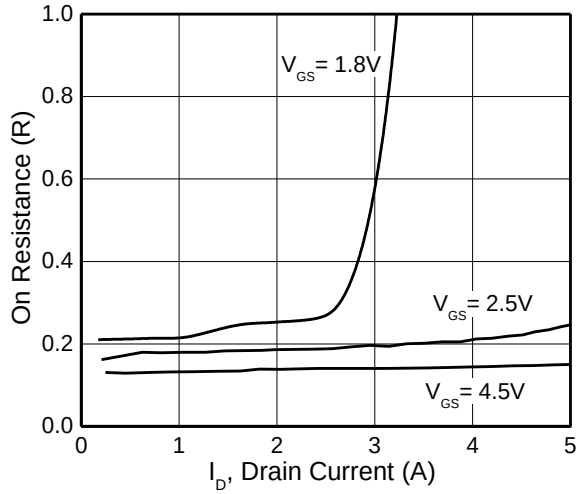


Figure 3. On Resistance vs. Drain Current

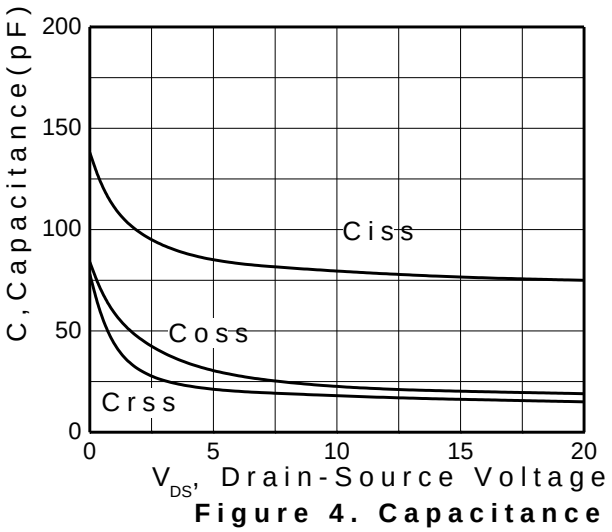


Figure 4. Capacitance

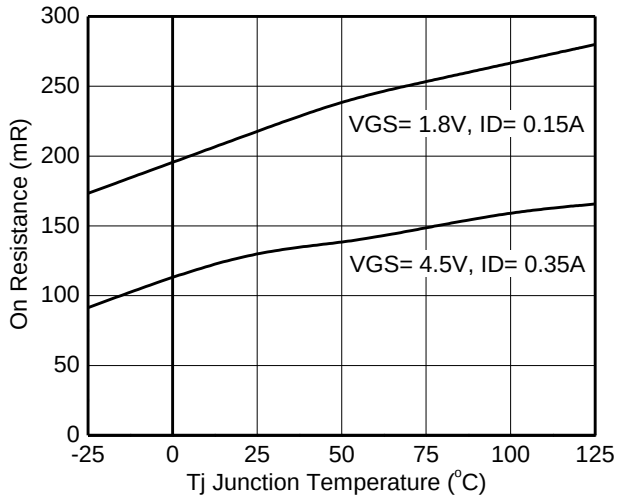


Figure 5 . On resistance vs. Temperature

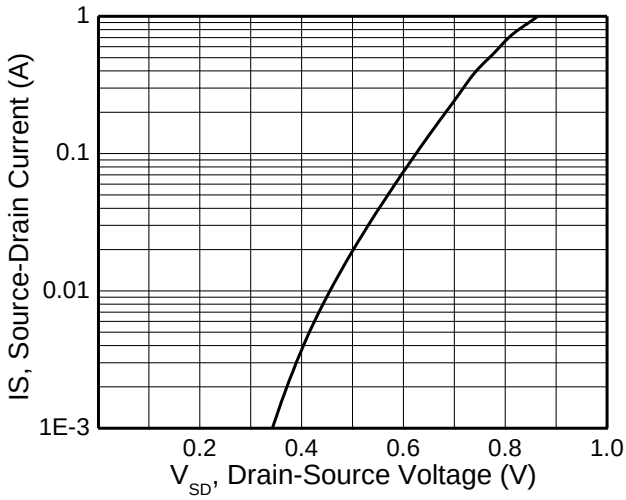


Figure 6. Diode Forward Characteristics

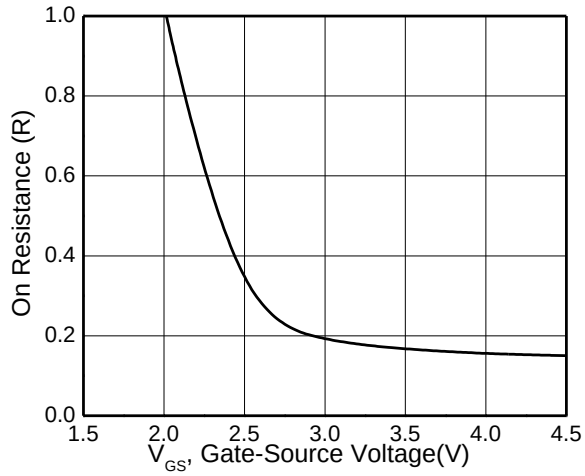


Figure 7. On Resistanc vs. Gate-Source Voltage

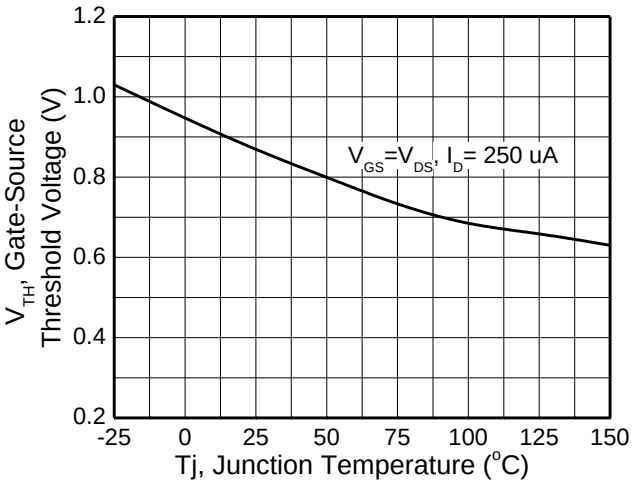
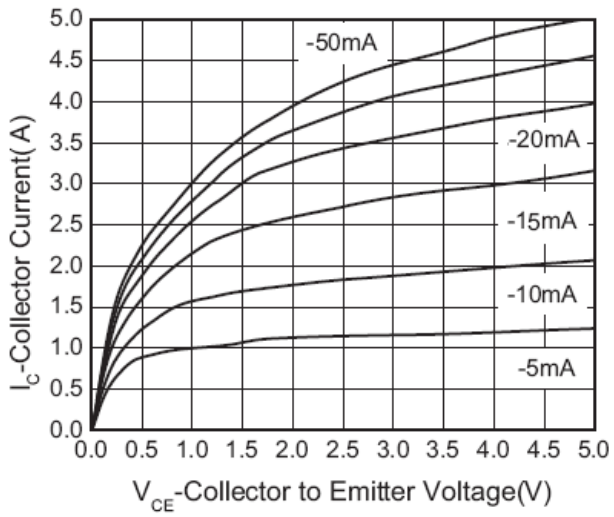
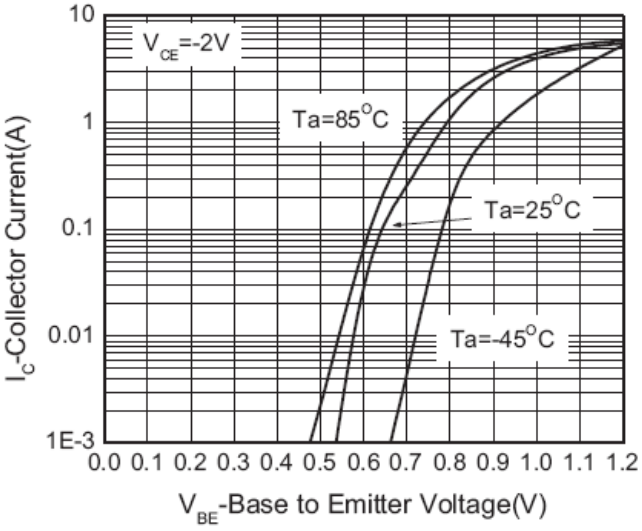


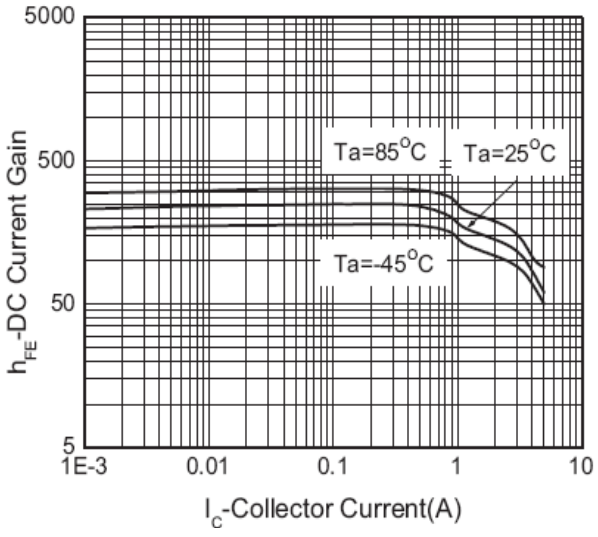
Figure 8. Gate Threshold vs. Temperature

PNP Transistor

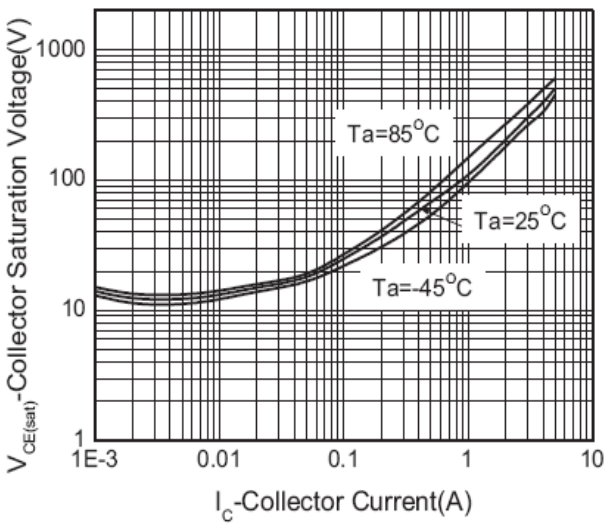




Output characteristics



Transfer characteristics



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.