

N-Channel Enhancement Mode MOSFET

- **Features**

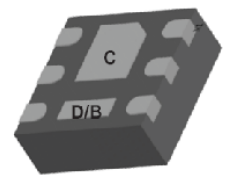
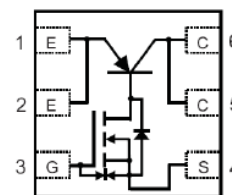
PNP Transistor

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

- **Applications**

- Li Battery Charging

- **Pin configuration**

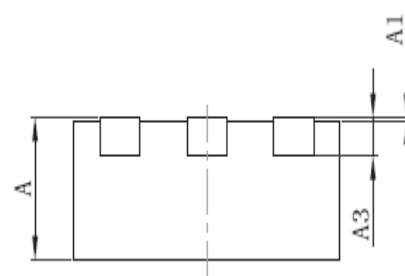
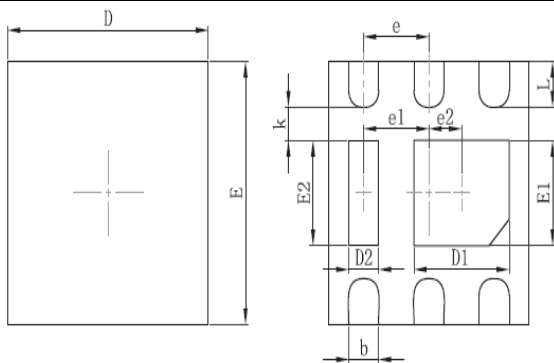


General Description

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

Pin configuration(Top view)

- **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



SSC8P22CN2

● **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	0.3	A
	Pulsed	I_{DM}	0.8	
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 $T_A = 25^\circ\text{C}$ (Note 1)		P_d	1350	mW
Junction and Storage Temperature Range		T_J, T_{STG}	-55 to +150	$^\circ\text{C}$

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	$V_{(BR)DSS}$	$V_{GS} = 0\text{V}, I_D = 250\mu\text{A}$	20	--	--	V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = 16\text{V}, V_{GS} = 0\text{V}$	--	--	1	μA
Gate-Body Leakage	I_{GSS}	$V_{GS} = \pm 12\text{V}, V_{DS} = 0\text{V}$	--	--	± 10	μA
Gate Threshold Voltage	$V_{GS(TH)}$	$V_{DS} = V_{GS}, I_D = 250\mu\text{A}$	0.35	0.6	1	V
Static Drain-Source On-Resistance	$R_{DS(ON)}$	$I_D = 0.5\text{A}, V_{GS} = 4.5\text{V}$	--	255	450	mR
		$I_D = 0.5\text{A}, V_{GS} = 2.5\text{V}$	--	390	765	
		$I_D = 0.35\text{A}, V_{GS} = 1.8\text{V}$	--	520	850	
Turn-On Delay Time	$t_{d(on)}$	$V_{DD} = -6\text{V}, R_L = 6\text{R}, I_D = -1\text{A},$ $V_{GEN} = -4.5\text{V}, R_G = 6\text{R}$	--	6	--	Ns
Turn-Off Delay Time	$t_{d(off)}$		--	28	--	
Input Capacitance	C_{ISS}	$V_{DS} = -16\text{V}, V_{GS} = 0\text{V},$ $f = 200\text{KHz}$	--	130	--	pF
Output Capacitance	C_{OSS}		--	20	--	
Reverse Transfer Capacitance	C_{RSS}		--	16	--	
Diode Forward Voltage ⁽¹⁾	V_{SD}	$V_{GS} = 0\text{V}, I_S = 150\text{mA}$	--	0.68	1.2	V
PNP Transistor						
Collector-Base Breakdown Voltage	BV_{CBO}	$I_C = -50\mu\text{A}, I_E = 0\text{mA}$	-40			V
Collector-Emitter Breakdown Voltage	BV_{CEO}	$I_C = -1\text{mA}, I_E = 0\text{mA}$	-40			V
Emitter-Base Breakdown Voltage	BV_{EBO}	$I_E = -50\mu\text{A}, I_C = 0\text{mA}$	-6			V
Collector cut off current	I_{CBO}	$V_{CB} = -30\text{V}, I_E = 0\text{mA}$			100	nA
Emitter cut off current	I_{EBO}	$V_{EB} = -5\text{V}, I_C = 0\text{mA}$			100	nA
DC Current Gain	HFE	$V_{CE} = -2\text{V}, I_C = -500\text{mA}$	100		350	
Collector-Emitter Saturation Voltage	V_{CESAT}	$I_C = -1.5\text{A}, I_B = -80\text{mA}$		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	R θ JA	105	°C/W
Junction-to-Ambient Thermal Resistance ^b	R θ JA	155	°C/W

- Typical Performance Characteristics

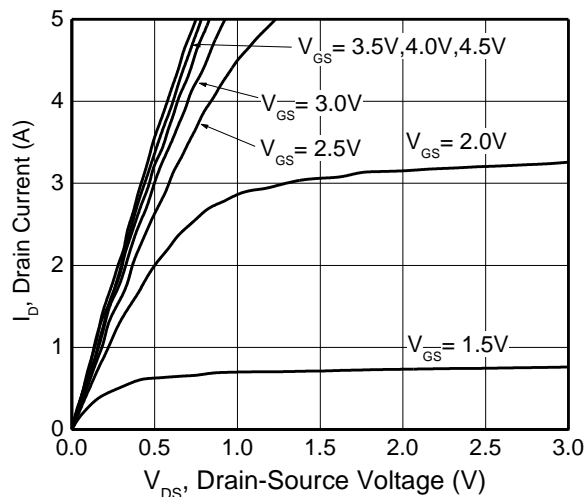


Figure 1. Output Characteristics

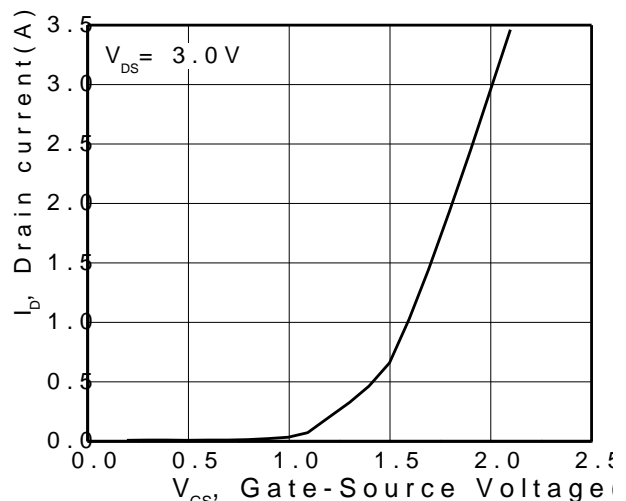


Figure 2. Transfer Characteristic

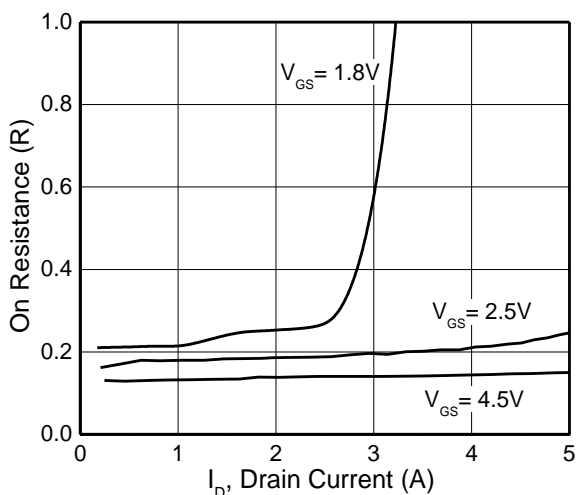


Figure 3. On Resistance vs. Drain Current

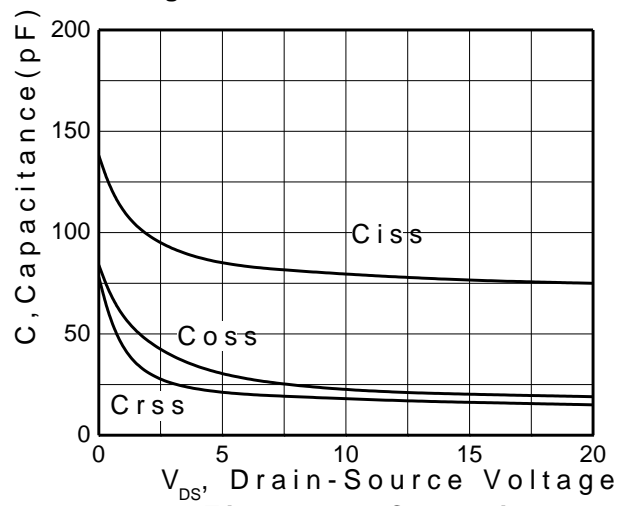


Figure 4. Capacitance

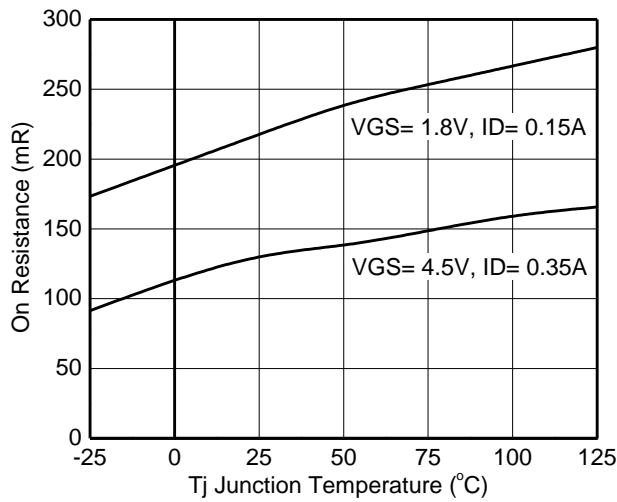


Figure 5 . On resistance vs. Temperature

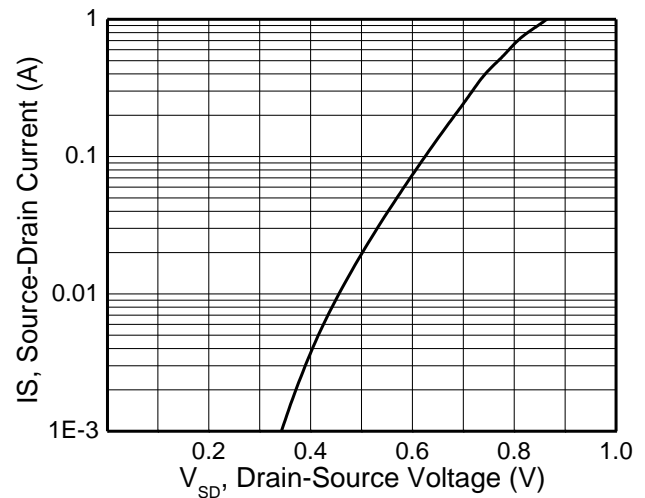


Figure 6. Diode Forward Characteristics

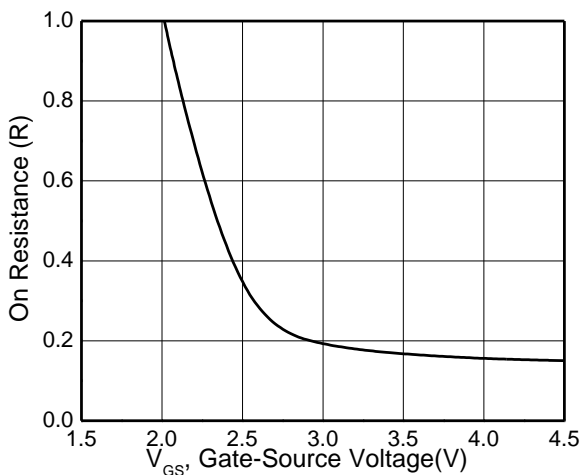


Figure 7. On Resistance vs. Gate-Source Voltage

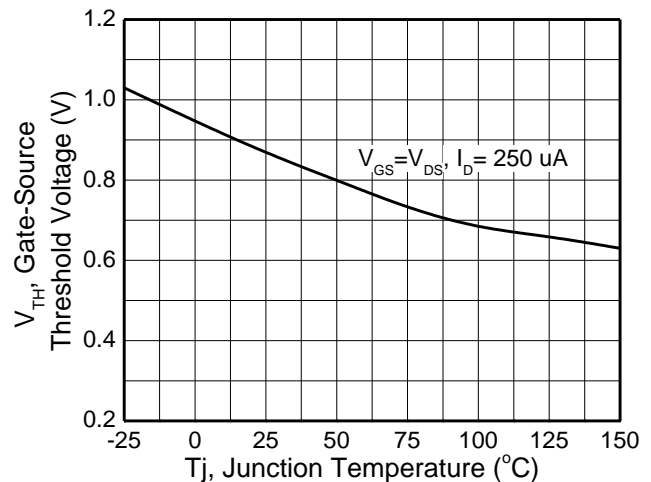
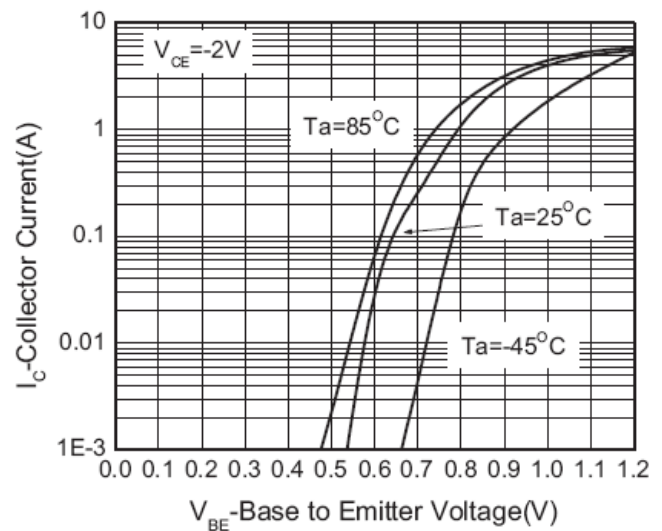
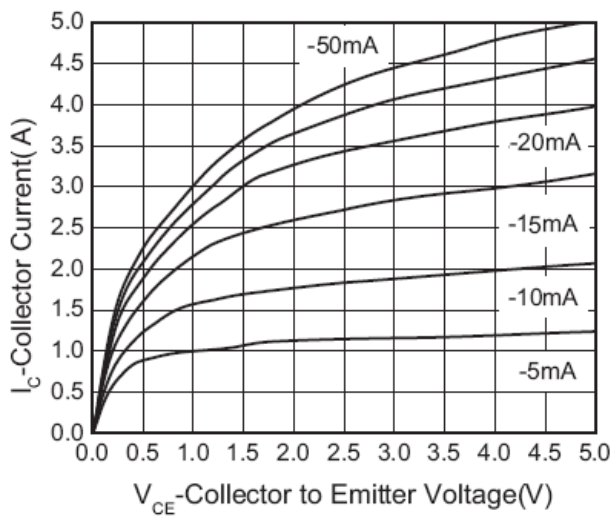
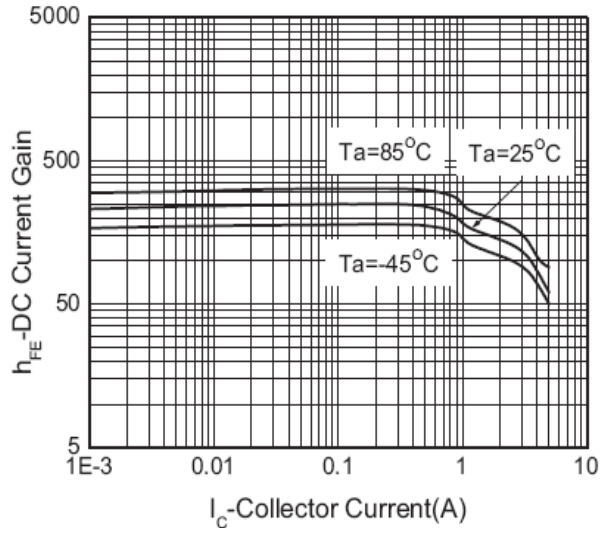


Figure 8. Gate Threshold vs. Temperature

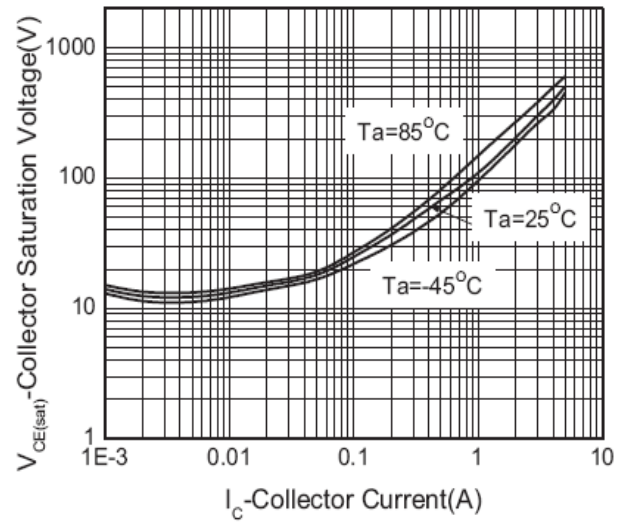
PNP Transistor



Output characteristics



Transfer characteristics





SSC8P22CN2

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