SSC8P20AN2

N-Channel Enhancement Mode MOSFET with PNP Transistor

Features

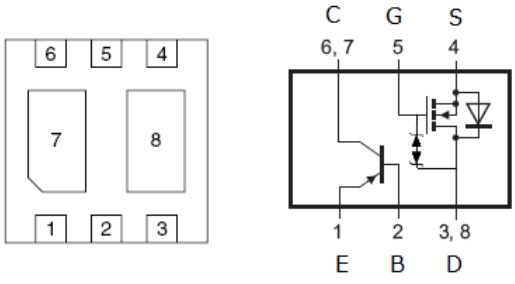
PNP Transistor

VCE	VBE	VCESATMAX	IC
-40V	-6V	-500mV	-1.0A

Applications

- Li Battery Charging

Pin configuration

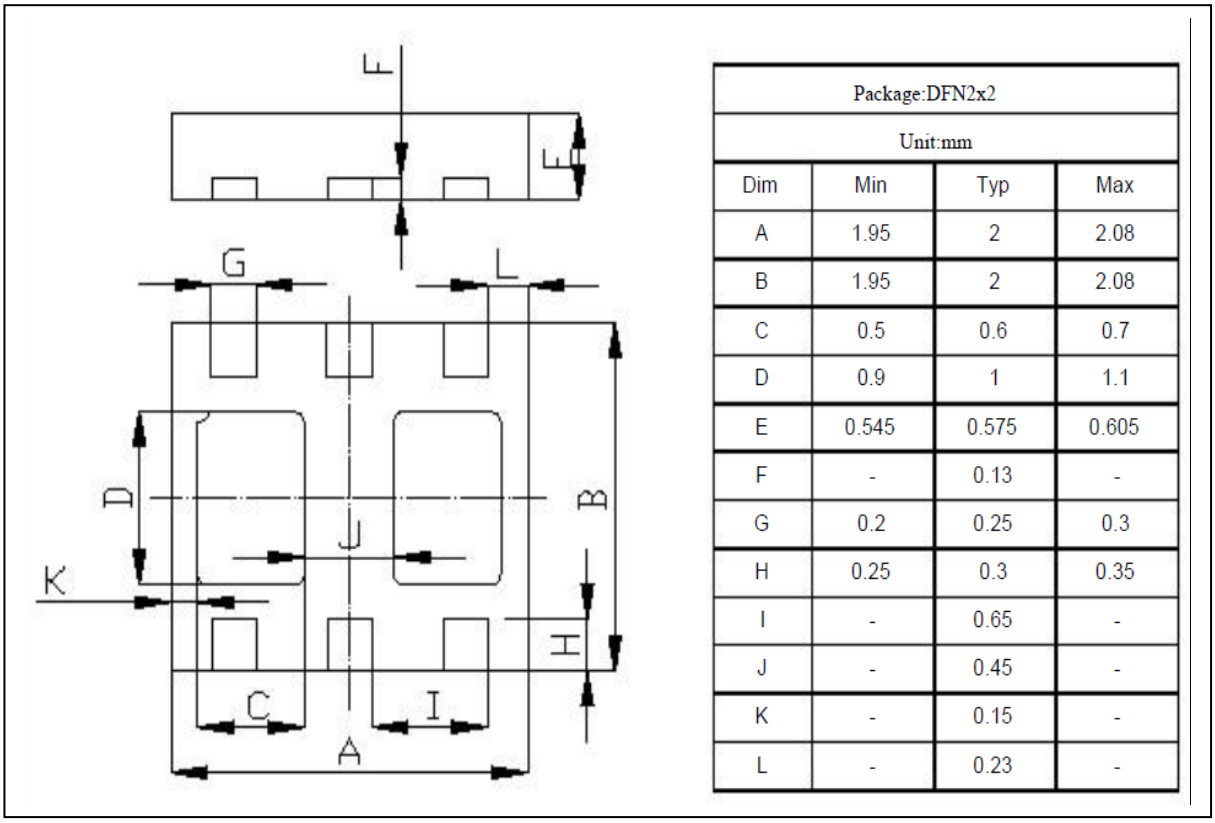


Top View

General Description

SSC8P20AN2 combines an N-Channel enhancement mode power MOSFET which is produced with high cell density and a Media Power PNP Transistor . The tiny and thin outline saves PCB consumption.

Package Information



Package:DFN2x2			
Unit:mm			
Dim	Min	Typ	Max
A	1.95	2	2.08
B	1.95	2	2.08
C	0.5	0.6	0.7
D	0.9	1	1.1
E	0.545	0.575	0.605
F	-	0.13	-
G	0.2	0.25	0.3
H	0.25	0.3	0.35
I	-	0.65	-
J	-	0.45	-
K	-	0.15	-
L	-	0.23	-

- **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}	±8	
Drain Current (Note 1)	Continuous Pulsed	I_D	0.8 3	A
Collector-Emitter Voltage		V_{CEO}	-40	V
Emitter-Base Voltage		V_{EBO}	-6	A
Collector Current	Collector Pulsed	I_C I_{CM}	1.0 2	A
Power Dissipation Derating above T_A = 25°C (Note 1)		P_d	1.5	W
Junction and Storage Temperature Range		T_J, T_{STG}	-55 to +150	°C

Note:1. 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 Enhancement Mode MOSFET						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	V_{GS} = 0V, I_D = 250uA	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	--	--	±100	nA
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} = 4.50V I_D = 0.5A,V_{GS} = 2.50V I_D = 0.35A,V_{GS} = 1.80V	-- --	255 390 520	450 765 850	mR
Turn-On Delay Time	$t_{d(on)}$	V_{DD} = -6V, R_L = 6R, I_D = −1A, V_{GEN} = -4.5V, R_G = 6R	--	6	--	ns
Turn-On Rise Time	t_r		--	28	--	
Turn-Off Delay Time	$t_{d(off)}$		--	42	--	
Turn-Off Fall Time	t_f		--	120	--	
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	--	
PNP Transistor						
Collector-Base Breakdown Voltage	BVCBO	IC=-50uA	-40	--	--	V
Collector-Emitter Breakdown Voltage	BVCEO	IC=-1mA	-40			V
Emitter-Base Breakdown Voltage	BVEBO	IE=-50uA	-6			V
DC Current Gain	HFE	VCE=-2V,IC=500mA	100		360	
Collector-Emitter Saturation Voltage	VCESAT	IC=-800mA,IB=-80mA		-0.15	-0.5	V

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

N-channel MOSFET Typical Performance Characteristics

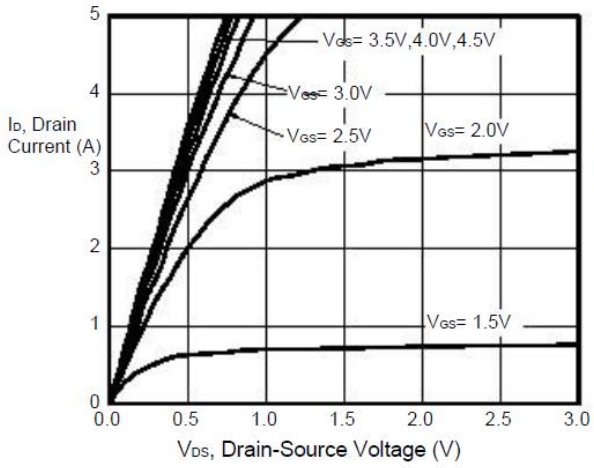


Fig1. Output Characteristics

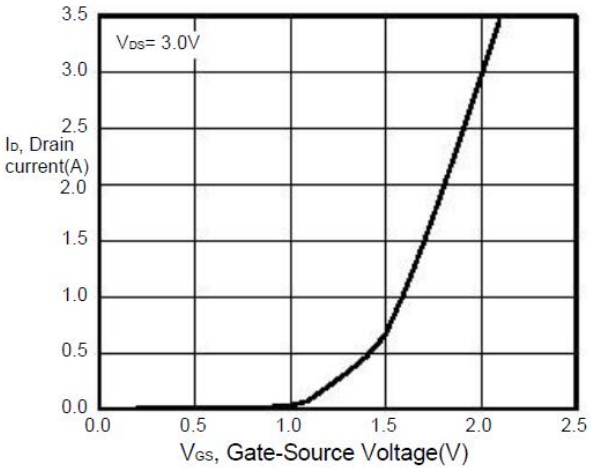


Fig2. Transfer Characteristics

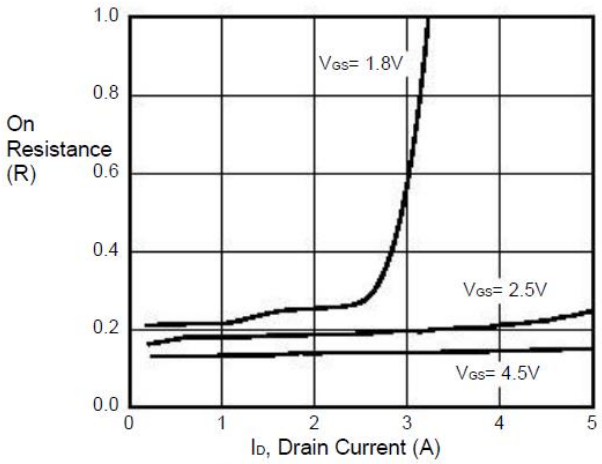


Fig3. On Resistance vs. Drain Current

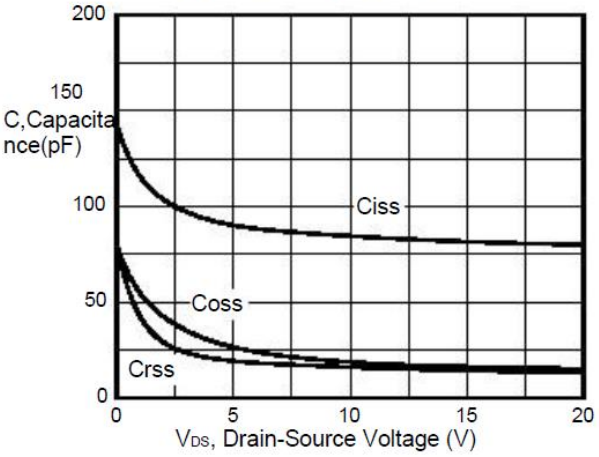


Fig4. Capacitance

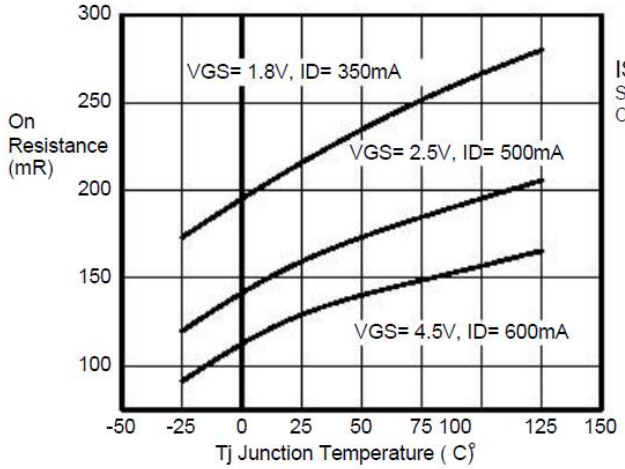


Fig5 . On Resistance vs. Temperature

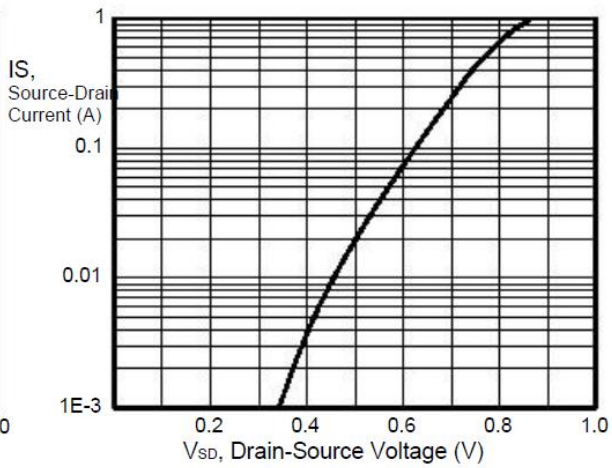


Fig6. Diode Forward Characteristics

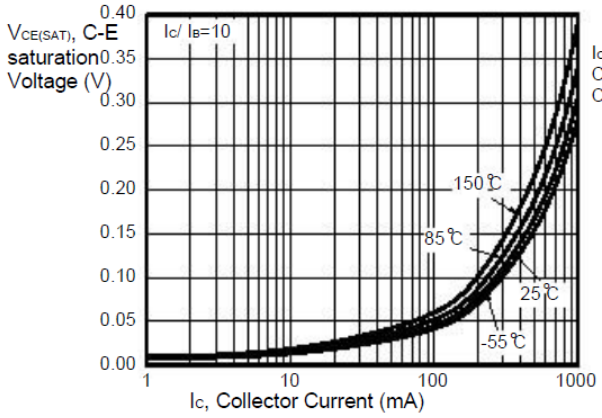


Fig12. C-E saturation Voltage vs. Collector Current

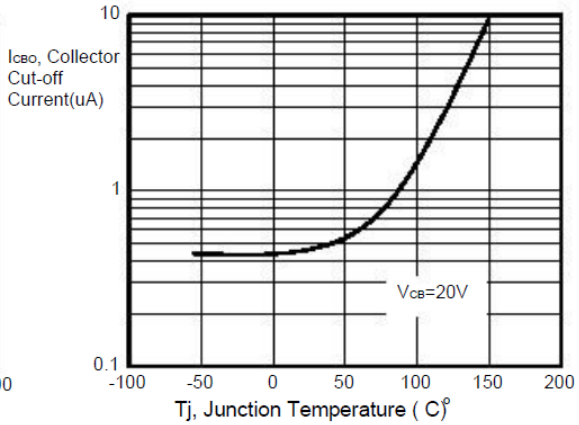


Fig13. Cut-off Current vs. Temperature

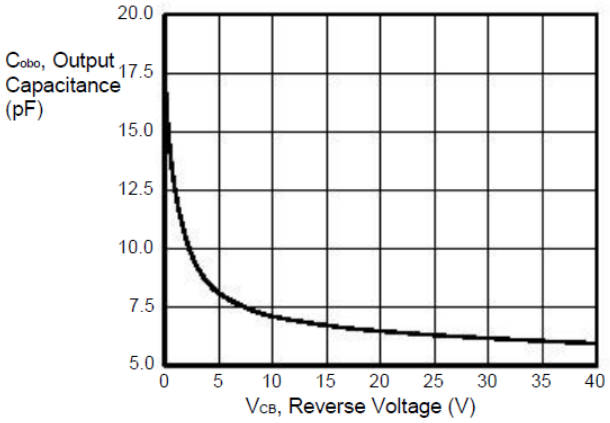


Fig14. Typical Junction Capacitance

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