SSC8P22AN3

N-Channel Enhancement Mode MOSFET with PNP Transistor

- **Features**

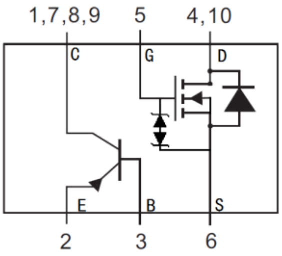
PNP Transistor

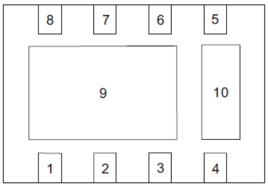
VCE	VBE	VCESATMAX	IC
-40V	-6V	-200mV	-3A

- **Applications**

➢ Li Battery Charging

- **Pin configuration**





Top View DFN3X2X0.75

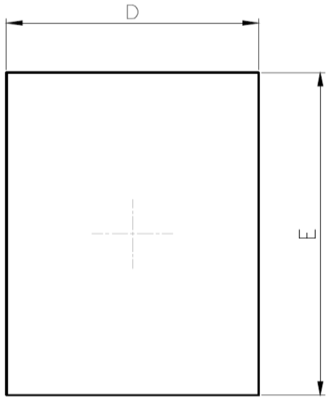
1:Collector
2:Emitter
3:Base
4:Drain
5:Gate

6：Source
7：Collector
8：Collector
9：Collector
10：Drain

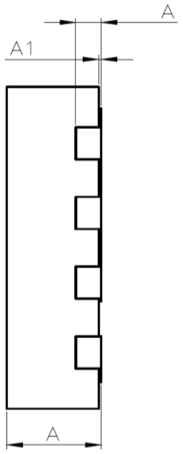
- **General Description**

SSC8P22AN3 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**

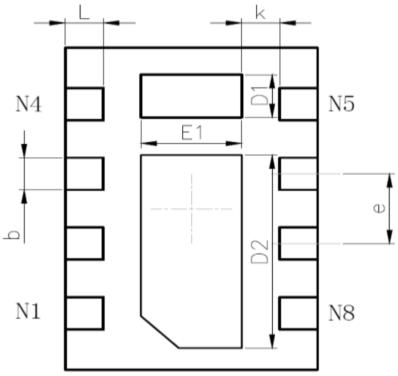


TOP VIEW



SIDE VIEW

DFN3X2X0.75



BOTTOM VIEW

Symbol	Dimensions in millimeter	
	MIN.	MAX.
A	0.700	0.800
A1	0.000	0.050
A3	0.203REF.	
D	1.900	2.100
E	2.900	3.100
D1	0.300	0.500
E1	0.700	0.900
D2	1.700	1.900
b	0.250	0.350
e	0.650TYP.	
k	0.200MIN.	
L	0.250	0.350

- **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) N-MOS	Continuous	I_D	0.8	A
	Pulsed		3	
Collector-Emitter Voltage		V_{CEO}	-30	V
Emitter-Base Voltage		V_{EBO}	-6	V
Collector Current T_A = 25°C (Note 1)	PNP Transistor	I_C (Note 1)	3	A
Power Dissipation Derating above T_A = 25°C (Note 1)		P_d	3	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, Ta=25℃. 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	--	--	±10	uA
Gate Threshold Voltage	$V_{GS(TH)}$	V_{DS} = V_{GS}, I_D = 250uA	0.35	--	1	V
Static Drain-Source On-Resistance	$R_{DS\ (ON)}$	I_D = 0.5A, V_{GS} = 4.50V	--	255	450	mR
		I_D = 0.5A, V_{GS} = 2.50V	--	390	765	
		I_D = 0.35A, V_{GS} = 1.80V		520	850	
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		350	
Collector-Emitter Saturation Voltage	VCESAT	IC=-1.5A,IB=-80mA		-0.15	-0.2	V

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

N-channel MOSFET Typical Performance Characteristics

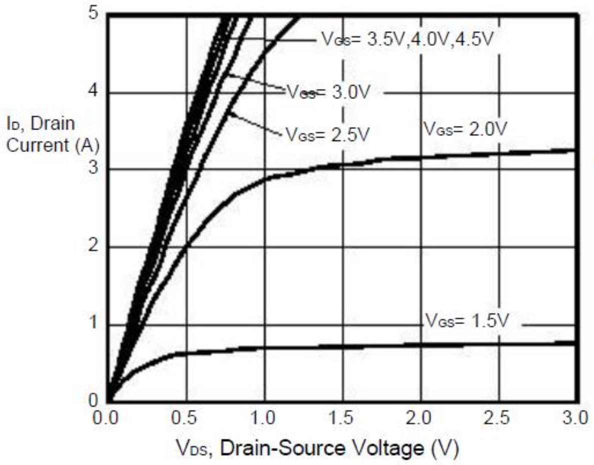


Fig1. Output Characteristics

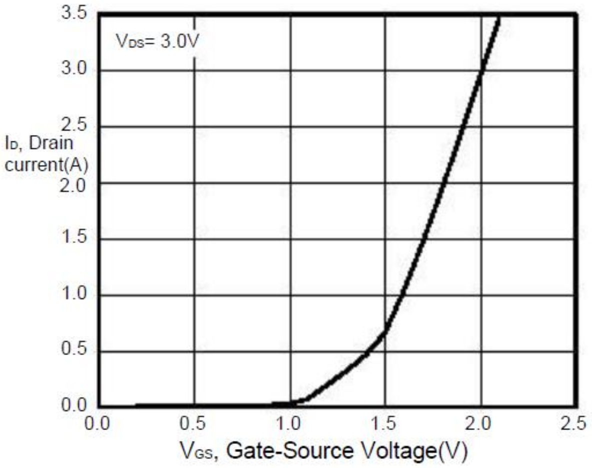


Fig2. Transfer Characteristics

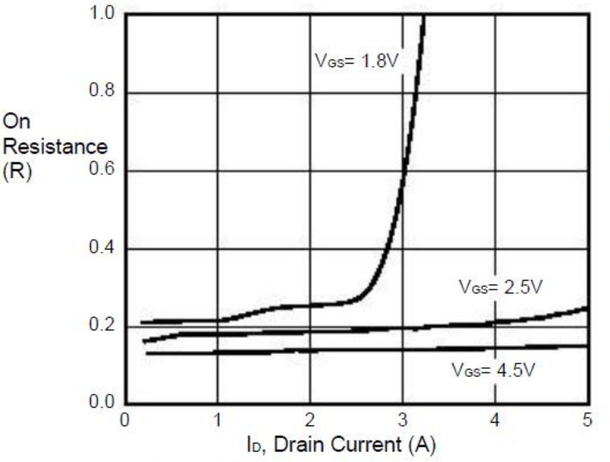


Fig3. On Resistance vs. Drain Current

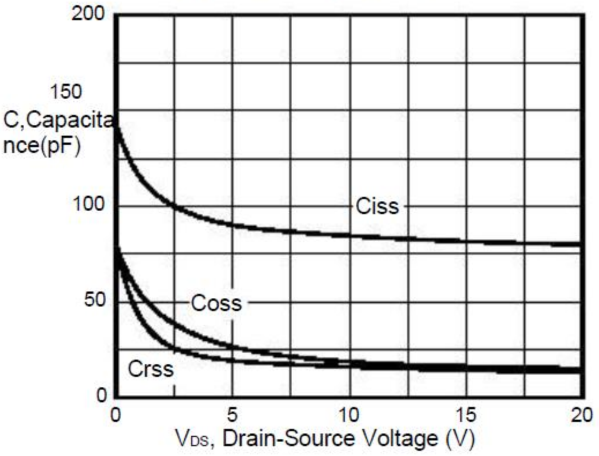


Fig4. Capacitance

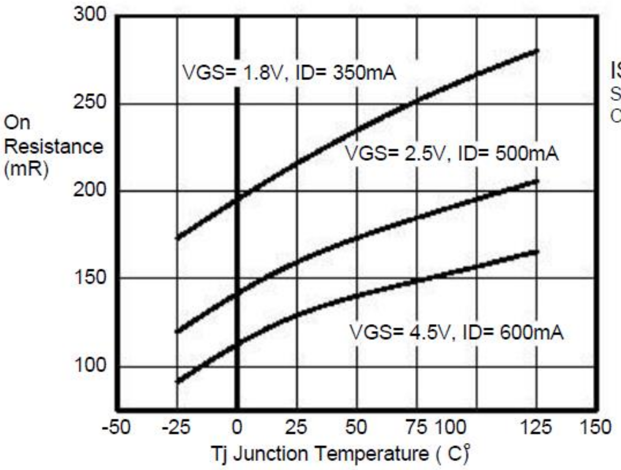


Fig5 . On Resistance vs. Temperature

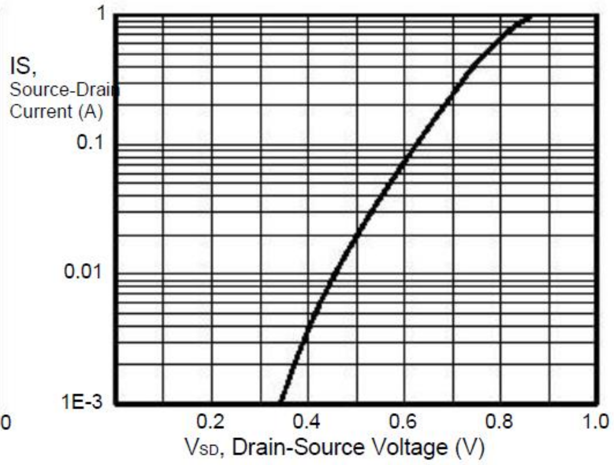
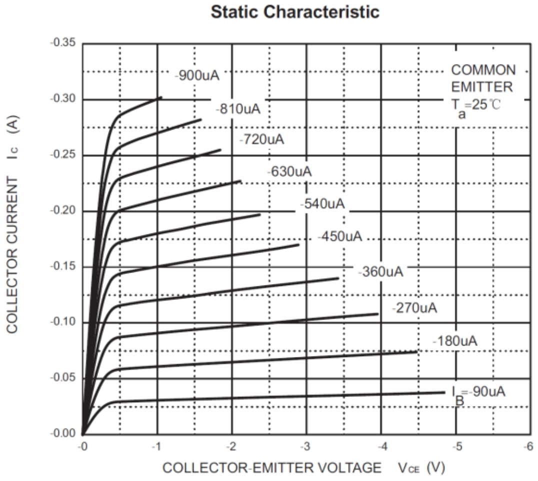
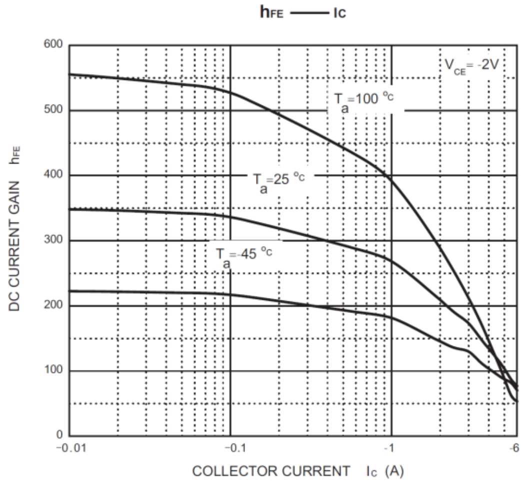
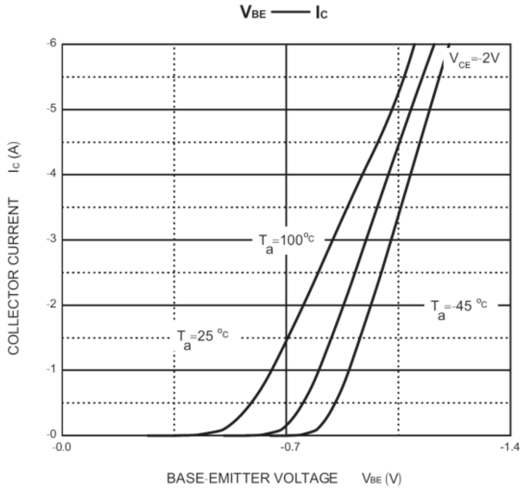


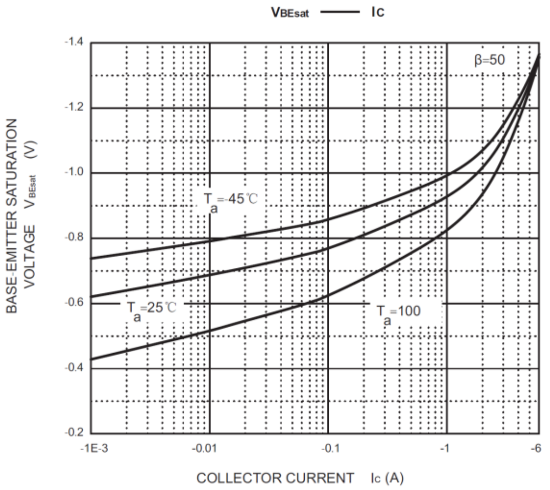
Fig6. Diode Forward Characteristics

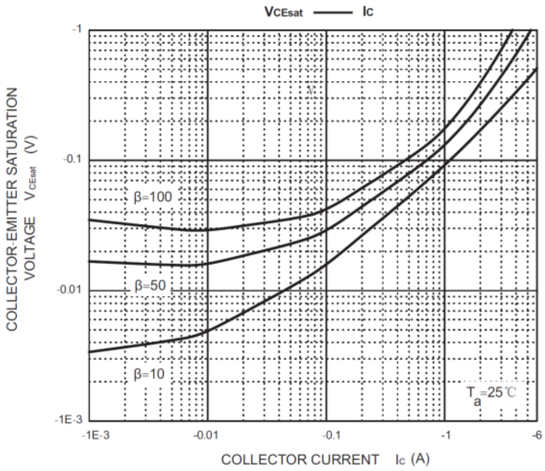
PNP Transistor Performance Curves (TA=25° C,unless otherwise noted)

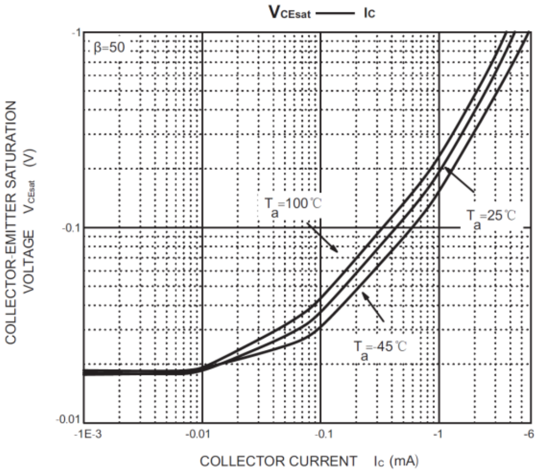

Static Characteristic

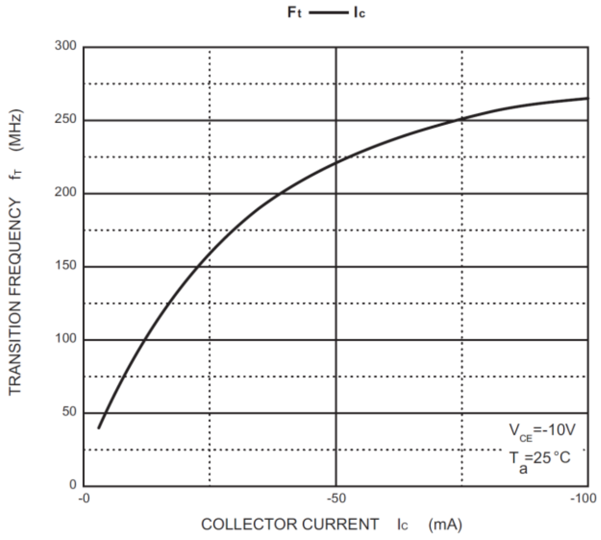

hFE —— Ic

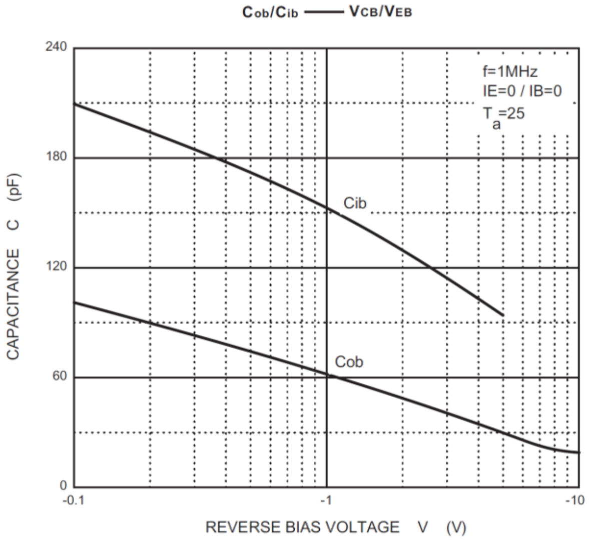

VBE —— Ic

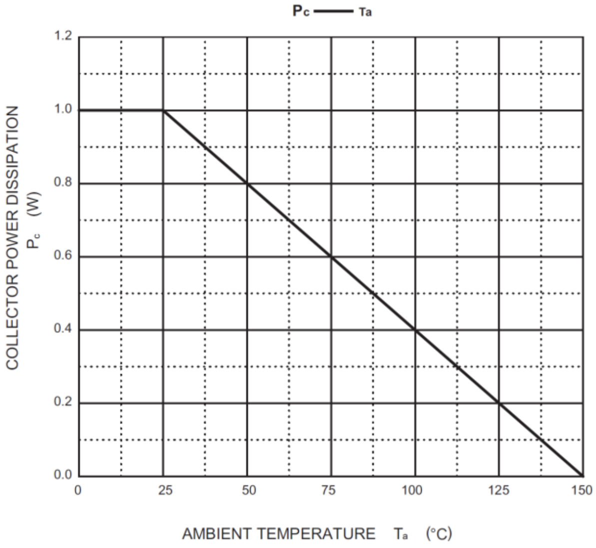

VBEsat —— Ic


VCEsat —— Ic


VCEsat —— Ic


Ft —— Ic
TRANSITION FREQUENCY fT (MHz)
300
250
200
150
100
50
0
-0
-50
-100
COLLECTOR CURRENT Ic (mA)
VCE=-10V
Ta=25°C


Cob/Cib —— VCB/VEB
CAPACITANCE C (pF)
240
180
120
60
0
-0.1
-1
-10
REVERSE BIAS VOLTAGE V (V)
f=1MHz
IE=0 / IB=0
Ta=25
Cib
Cob


Pc —— Ta
COLLECTOR POWER DISSIPATION Pc (W)
1.2
1.0
0.8
0.6
0.4
0.2
0.0
0
25
50
75
100
125
150
AMBIENT TEMPERATURE Ta (°C)

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