

SSC8P22AN3
N-Channel Enhancement Mode MOSFET with PNP Transistor

 ➤ **Features**
N-Channel

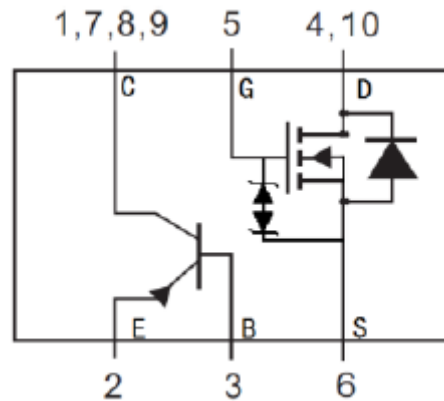
VDS	VGS	RDSON Typ.	ID
20V	±8V	255mR@4V5	0.8A
		390mR@2V5	

PNP Transistor

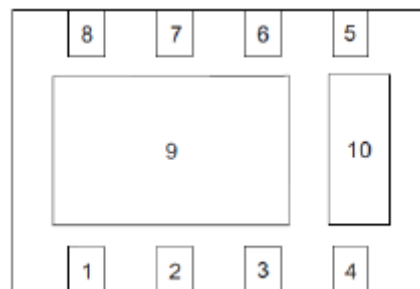
VCE	VBE	VCESAT Typ.	IC
-40V	-6V	-150mV	-3A

 ➤ **Pin configuration**

Top view


 ➤ **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.



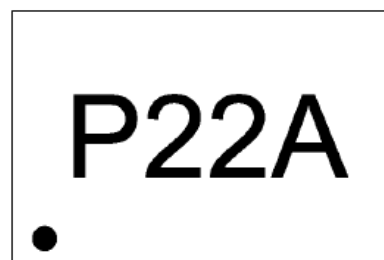
Bottom View

 ➤ **Applications**

- Li-Battery Charging

 ➤ **Ordering Information**

Device	Package	Shipping
SSC8P22AN3	DFN3X2	3000/Reel



Marking

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

Symbol	Parameter	N-Channel	Unit
N-MOS			
V_{DSS}	Drain-to-Source Voltage	20	V
V_{GSS}	Gate-to-Source Voltage	± 8	V
I_D	Continuous Drain Current	0.8	A
I_{DM}	Pulsed Drain Current	3	A
PNP Transistor			
V_{CBO}	Collector-Base Voltage	-40	V
V_{CEO}	Collector-Emitter Voltage	-40	V
V_{EBO}	Emitter-Base Voltage	-6	V
I_C	Collector Current	-3	A
I_{CM}	Pulsed Collector Current	-6	A
Power Dissipation and Temperature			
P_D	Power Dissipation	3	W
T_A	Operation Temperature Range	-40 to 85	$^{\circ}\text{C}$
T_L	Lead Temperature	260	$^{\circ}\text{C}$
T_J	Operation junction temperature	-55 to 150	$^{\circ}\text{C}$
T_{STG}	Storage temperature range	-55 to 150	$^{\circ}\text{C}$

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

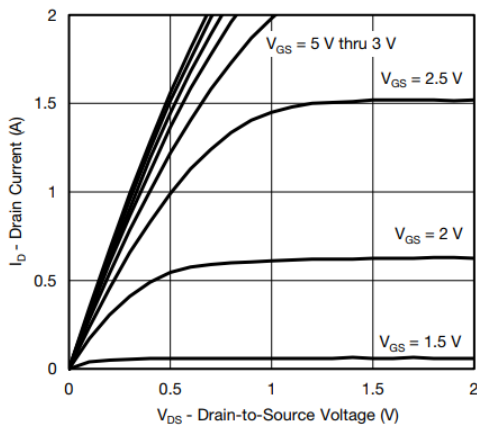
Symbol	Parameter	Value	Unit
$R_{\theta JA}$	Junction-to-Ambient Thermal Resistance	45	$^{\circ}\text{C}/\text{W}$

➤ **Electronics Characteristics**($T_A=25^{\circ}\text{C}$ unless otherwise noted)

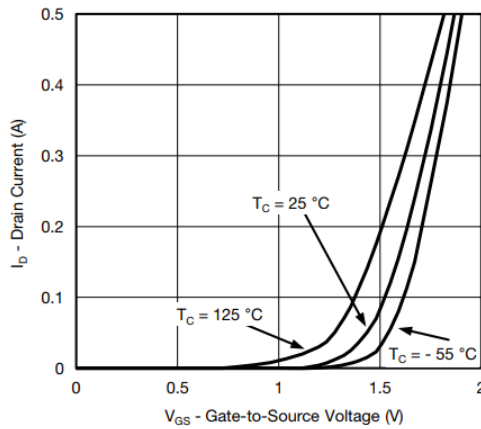
Symbol	Parameter	Test Conditions	Min	Typ.	Max	Unit
N-Channel Enhancement Mode MOSFET						
$V_{(BR)DSS}$	Drain-Source Breakdown Voltage	$V_{GS}=0V, I_D=250\mu A$	20			V
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS}=V_{GS}, I_D=250\mu A$	0.35	0.6	1	V
$R_{DS(on)}$	Drain-Source On- Resistance	$V_{GS}=4.5V, I_D=0.5A$		255	450	mR
		$V_{GS}=2.5V, I_D=0.5A$		390	765	
		$V_{GS}=1.8V, I_D=0.35A$		520	850	
I_{DSS}	Zero Gate Voltage Drain Current	$V_{DS}=16V, V_{GS}=0V$			1	μA
I_{GSS}	Gate-Source leak current	$V_{GS}=\pm 12V, V_{DS}=0V$			± 10	μA
V_{SD}	Forward Voltage	$V_{GS}=0V, I_S=0.1A$		1	1.3	V
C_{iss}	Input Capacitance	$V_{DS}=16V, V_{GS}=0V,$ $F=200KHZ$		130		pF
C_{oss}	Output Capacitance			20		
C_{rss}	Reverse Transfer Capacitance			16		
$T_{D(ON)}$	Turn-on delay time	$V_{DS}=6V, V_{GS}=4.5V,$ $R_L=6R, R_G=6R, I_D=1A$		6		ns
$T_{D(OFF)}$	Turn-off delay time			42		

Symbol	Parameter	Test Conditions	Min	Typ.	Max	Unit
PNP Transistor						
BVCBO	Collector-Base Breakdown Voltage	IC= -50uA IE=0	-40			V
BVCEO	Collector-Emitter Breakdown Voltage	IC= -1mA IB=0	-40			V
BVEBO	Emitter-Base Breakdown Voltage	IE= -50uA IC=0	-6			V
ICBO	Collector cut off current	VCB= -20V IE=0			-0.1	uA
IEBO	Emitter cut off current	VEB= -4V IC=0			-0.1	uA
HFE	DC Current Gain	VCE= -2V IC= -0.5A	100		350	
VCESAT	Collector-Emitter Saturation Voltage	IC= -0.8A IB= -80mA		-0.15	-0.2	V
VBESAT	Base-Emitter Saturation Voltage	IC= -0.8A IB= -80mA			-1.2	V
f _T	Transition frequency	VCE= -6V, IE= -0.02A f=30MHz	50	80		Hz

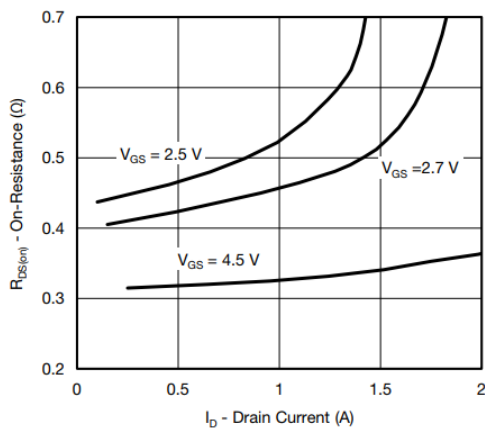
➤ **N-Channel Typical Characteristics**($T_A=25^\circ\text{C}$ unless otherwise noted)



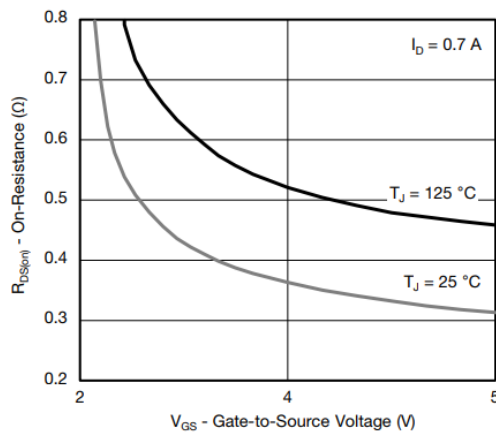
Output Characteristics



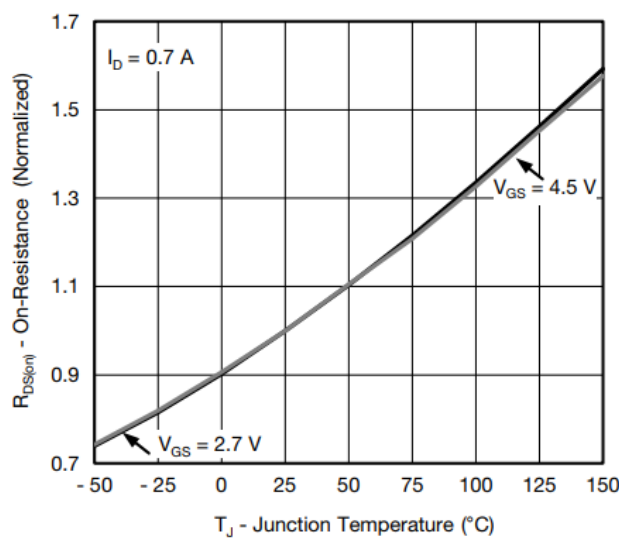
Transfer Characteristics



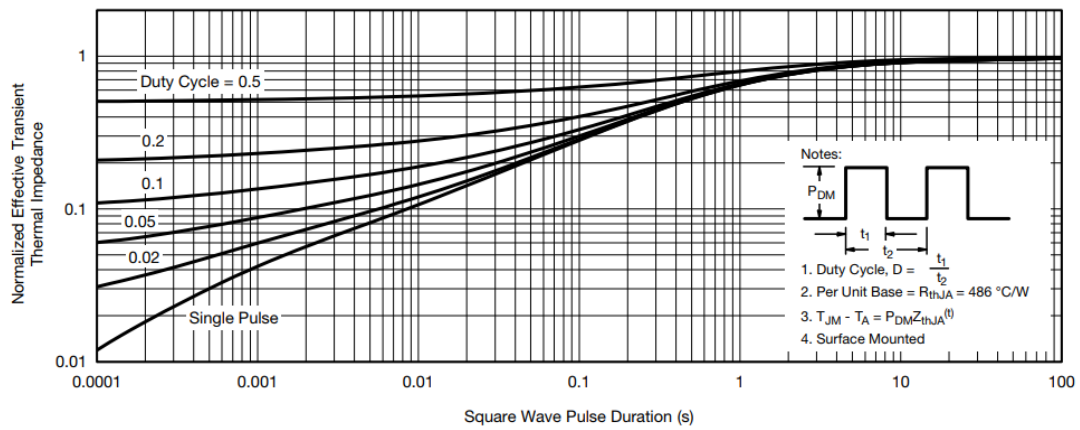
On-Resistance vs. Drain Current and Gate Voltage



On-Resistance vs. Gate-to-Source Voltage

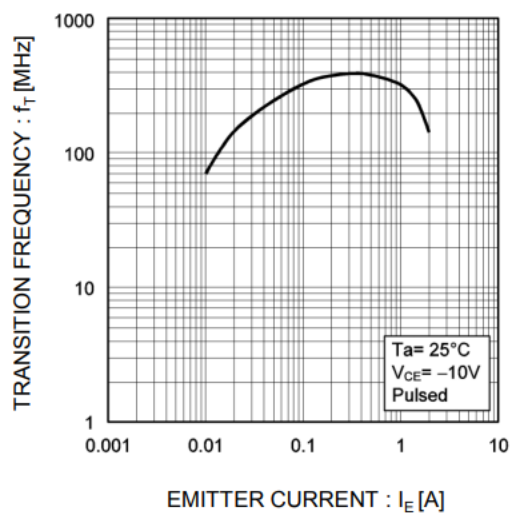
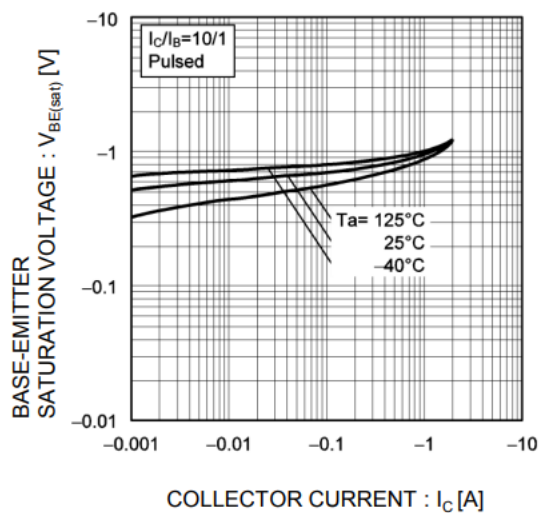
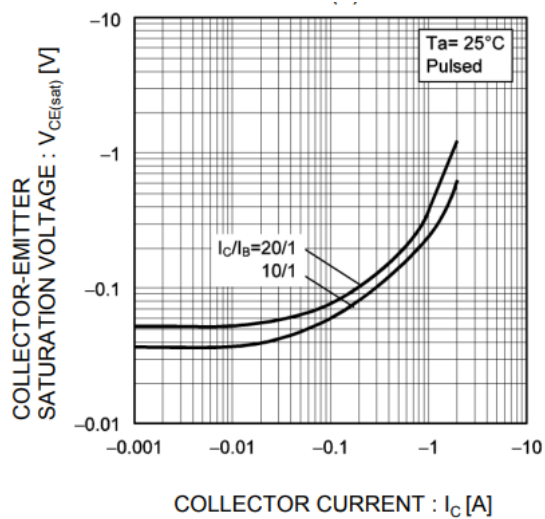
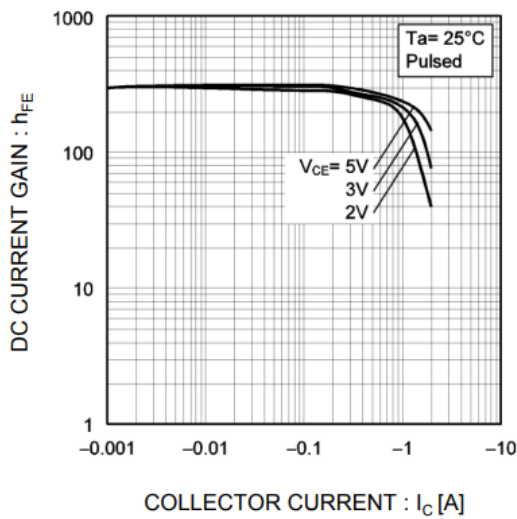
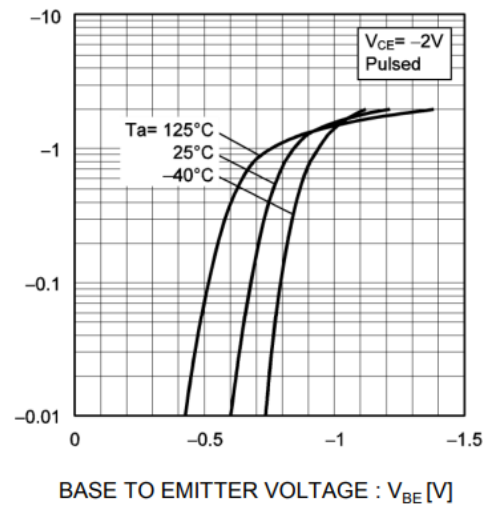
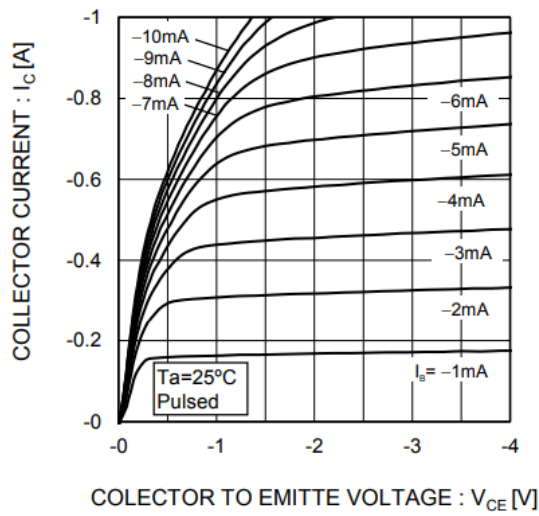


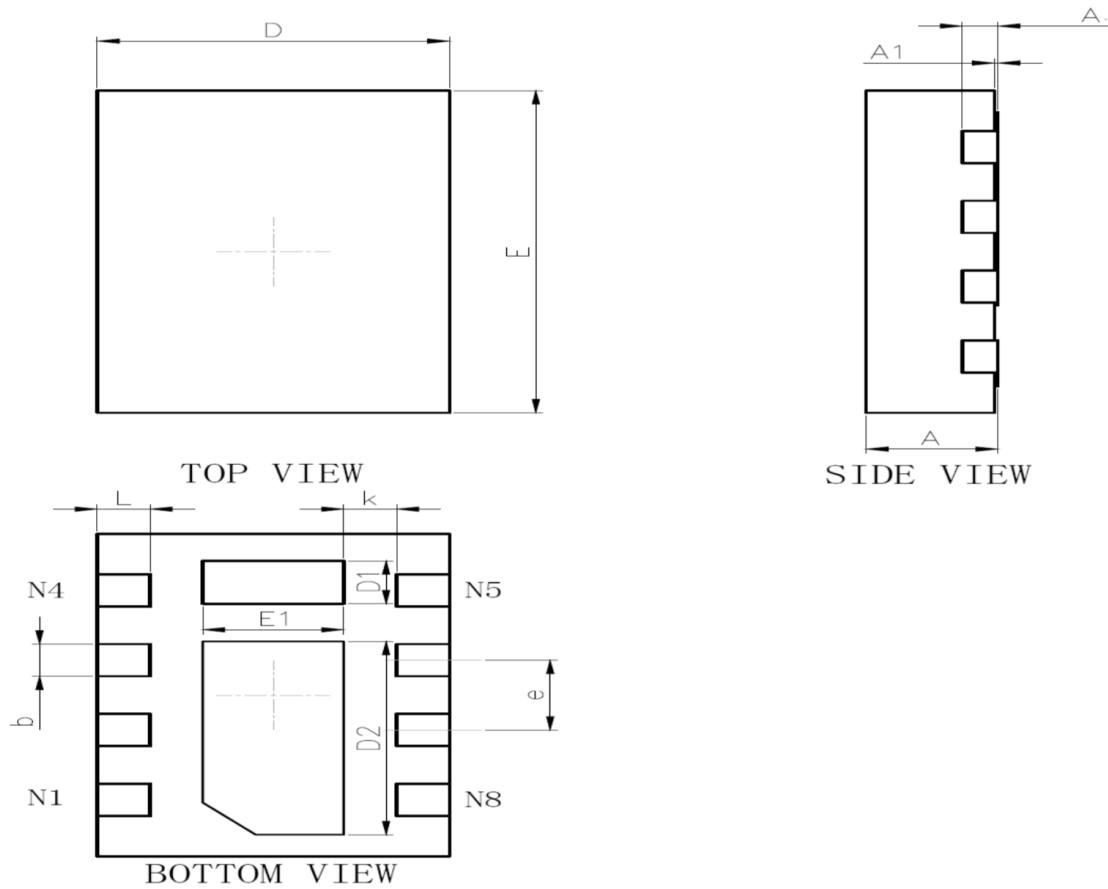
On-Resistance vs. Junction Temperature



Normalized Thermal Transient Impedance, Junction-to-Ambient

➤ PNP Transistor Typical Performance Characteristics



➤ Package Information

DFN3X2-8L

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



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