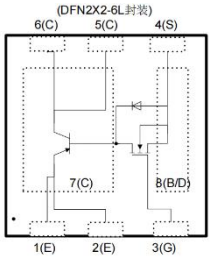
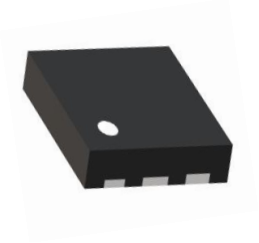
1. General Description

The SSC8P22CN2-CN combination of -30V -3A PNP low VCEsat Breakthrough In Small Signal (BISS) transistor and 20V N-channel Trench MOSFET.

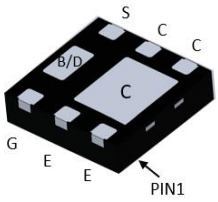
The device is housed in a small and ultra thin DFN2*2 Surface-Mounted Device (SMD) plastic package.



Schematic Diagram



DFN2020-6L



Pin configuration

2. Specification Features

- High Power and current handing capability
- High collector current capability -3A I_C
- High energy efficiency due to less heat generation
- High Power and current handing capability
- Smaller required Printed-Circuit Board (PCB)

3. Application

- Charging circuits
- Load switch
- Power management
- Battery-driven devices
- PWM applications
- Power switches (e.g. motors, fans)

4. Absolute Maximum Ratings (T_J =25℃)

Parameter (PNP)	Symbol	Value	Units
Collector-emitter Voltage	V_{CEO}	-30	V
Collector-base Voltage	V_{CBO}	-30	V
Emitter-base Voltage	V_{EBO}	-6	V
Continues Collector Current [b]	I_C	-3	A
Pulse Collector Current [c]	I_{CM}	-3.5	A
Power dissipation a	P_D	1.5	W

5. Thermal resistance ratings

Parameter	Symbol	Value	Units
Junction-to-Ambient Thermal Resistance [a]	RθJA		°C/W
Junction-to-Ambient Thermal Resistance[b]	RθJA	90	°C/W

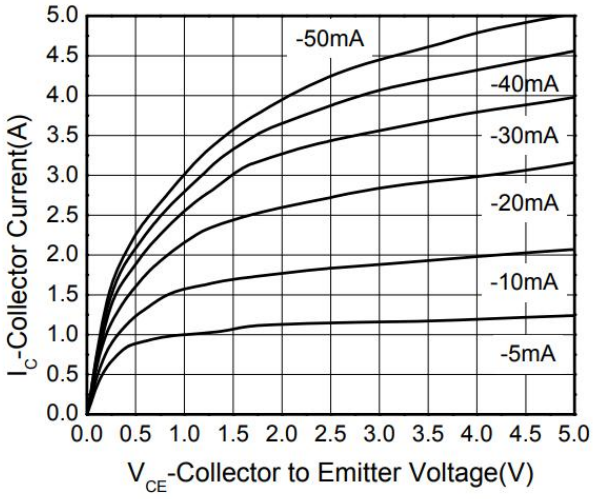
a. Surface mounted on FR-4 Board using 1 square inch pad size, 1oz copper
b. Surface mounted on FR-4 board using minimum pad size, 1oz copper
c. Pulse width=300μs, Duty Cycle<2%
d. Maximum junction temperature TJ=150°C.

6. Electrical Characteristics (T_J =25℃)

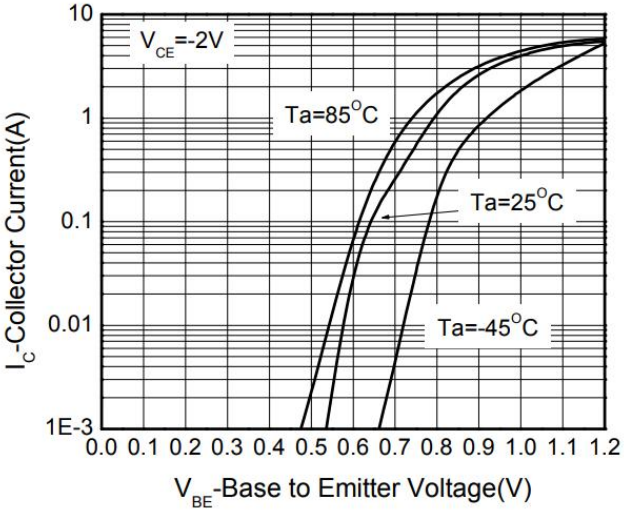
Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
PNP Transistor						
Collector-emitter Breakdown Voltage	BV_{CEO}	I_C=10mA, I_B=0mA	-30			V
Collector-base Breakdown Voltage	BV_{CBO}	I_C=1mA, I_E=0mA	-30			V
Emitter-base Breakdown Voltage	BV_{EBO}	I_E=-100μA,I_C=0mA	-6			V
Collector Cutoff Current	I_{CBO}	V_{CB}=-30V, I_E=0			-100	nA
Emitter Cutoff Current	I_{EBO}	V_{EB}=-5V, I_C=0			-100	nA
Collector-emitter Saturation Voltage	V_{CE}(sat)	I_C=-0.5A, I_B=-50mA		-0.1	-0.35	V
Base-emitter Saturation Voltage	V_{BE}(sat)	I_C=-0.5A, I_B=-50mA		-0.9	-1.5	V
Base-emitter Forward Voltage	V_{BE}(on)	I_C=-0.5A, V_{CE}=-2V		-0.7	-1.1	V
Dc Current Gain	h_{FE}	I_C=-0.5A, V_{CE}=-2V	100		300	
NMOS						
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			0.1	uA
Gate-body leakage current	I_{GSS}	V_{GS} =±4.5V, V_{DS} = 0V			±1	uA
Gate threshold voltage	$V_{GS(th)}$	V_{DS}= V_{GS}, I_D=250uA	0.45	0.75	1.5	V
Drain-source on-resistance	$R_{DS(ON)}$	V_{GS} =4.5V, I_D=0.5A			1.5	Ω
		V_{GS} =2.5V, I_D=0.5A			4	
Diode forward voltage	V_{SD}	Is=0.5A, V_{GS} = 0V		0.7	1.3	V

7. Typical Electrical and Thermal Characteristics （Curves）

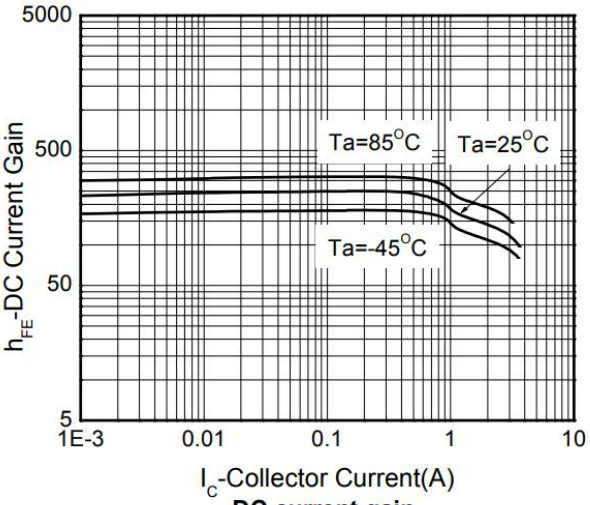
PNP Transistor



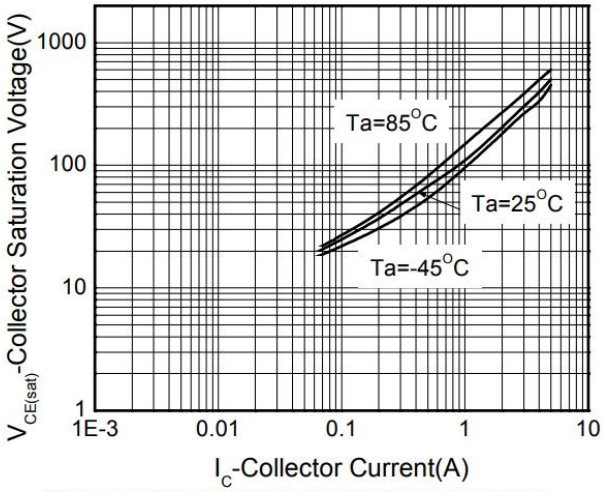
Output characteristics



Transfer characteristics

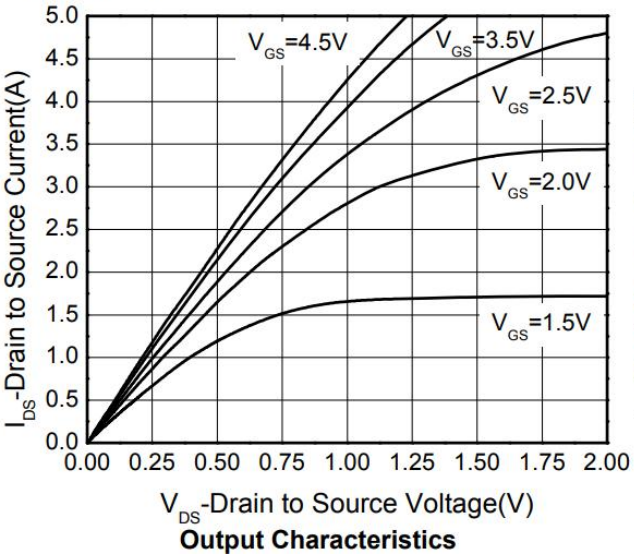


DC current gain

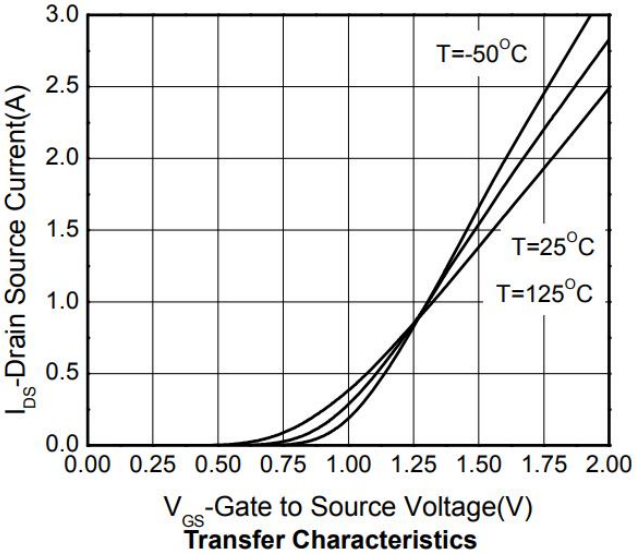


C-E saturation voltage vs. Collector current

N-MOSFET



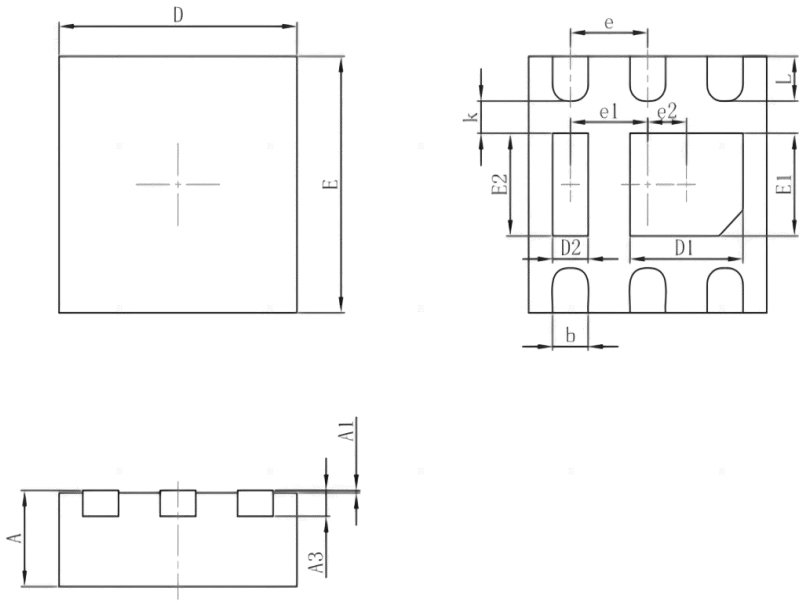
Output Characteristics



Transfer Characteristics

8. Package Outline Dimensions

Device Marking	Device	Package	Reel size	Tape width	Quantity
M2019 A***	SSC8P22CN2-CN	DFN2020-6L	7inch	8mm	4000



Symbol	Dimensions Millimeters		
	Mlin.	Typ.	Max.
A	0.70		0.80
A1	-		0.05
A3	0.203REF		
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	0.650Typ.		
e2	0.325Typ.		
k	0.200Min.		
b	0.250	0.300	0.350
e	0.650Typ.		
L	0.300	0.350	0.400

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