

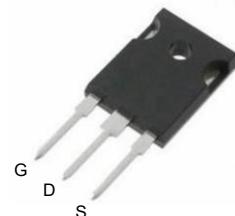
SSCV13N500GT2

N-Channel Enhancement Mode Power MOSFET

➤ Features

V _{DS}	V _{GS}	R _{DS(ON)} Typ.	I _D
500V	±30V	0.47Ω@10V	13A

➤ Pin Configuration

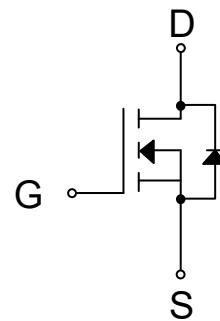


➤ Description

- This device is N-Channel enhancement MOSFET.
- Fast Switching.
- Improved dv/dt Capability.

TO-247-3L (Top View)

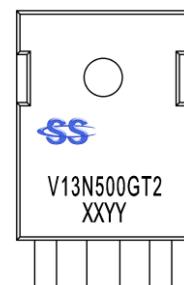
100% UIS + ΔVDS + R_g Tested!



➤ Applications

- Uninterruptible Power Supply (UPS)
- Switch Mode Power Supply
- TV Power

Pin Configuration



➤ Ordering Information

Device	Package	Shipping
SSCV13N500GT2	TO-247-3L	30/Tube

Marking

(XXYY: Internal Traceability Code)



➤ **Absolute Maximum Ratings (T_J=25°C unless otherwise noted)**

Symbol	Parameter	Ratings	Unit
V _{DSS}	Drain-to-Source Voltage	500	V
V _{GSS}	Gate-to-Source Voltage	±30	V
I _D	Continuous Drain Current	T _J =25°C	13
		T _J =100°C	8.5
I _{DM}	Pulsed Drain Current ^a	52	A
E _{AS}	Single Pulsed Avalanche Energy	259	mJ
P _D	Power Dissipation, T _J =25°C	179	W
T _{STG} / T _J	Junction & Storage Temperature Range	-55 to 150	°C

➤ **Thermal Resistance Ratings (T_J=25°C unless otherwise noted)**

Symbol	Parameter	Ratings	Unit
R _{θJA}	Thermal Resistance, Junction to Ambient ^b	60	°C/W
R _{θJC}	Thermal Resistance, Junction to Case	0.7	

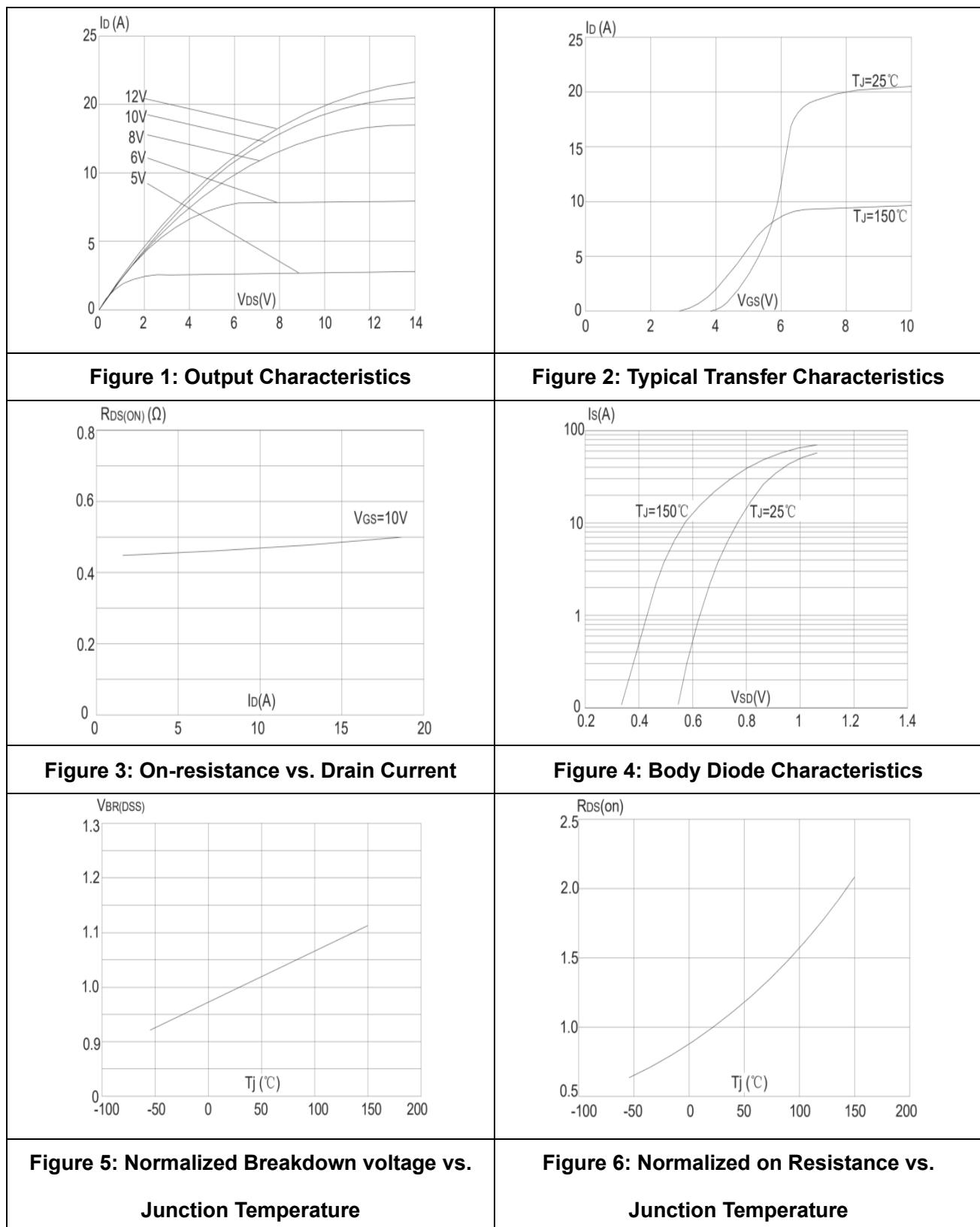
Note:

- a. Repetitive Rating: Pulsed width limited by maximum junction temperature.
- b. R_{θJA} is measured with the device mounted on a minimum recommended pad of 2oz copper FR4 PCB.

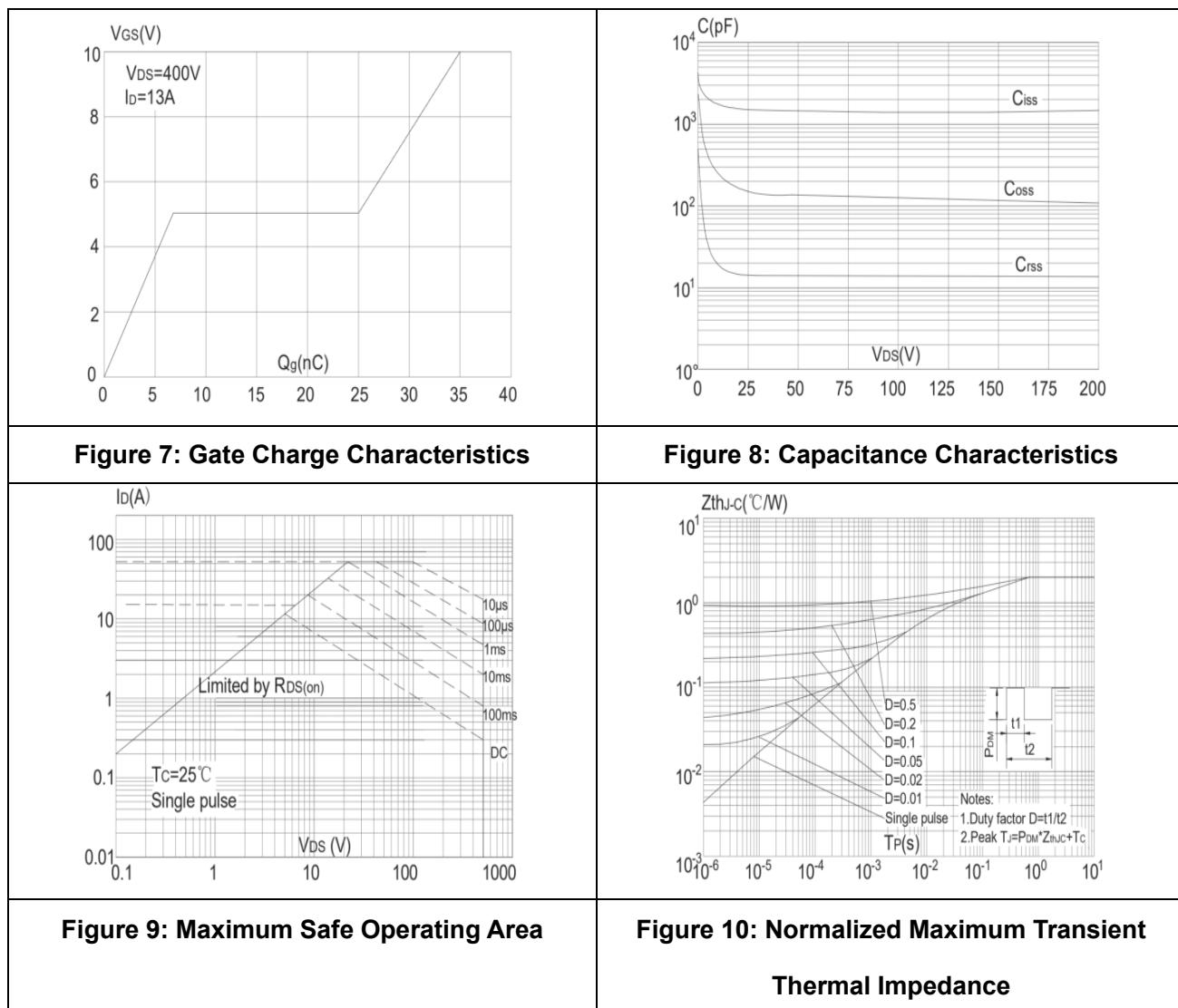
➤ **Electrical Characteristics (T_J=25°C unless otherwise noted)**

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Drain-Source Breakdown Voltage	V _{(BR)DSS}	V _{GS} = 0V, I _D = 250μA	500			V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = 600V, V _{GS} = 0V			1.0	μA
Gate-Source Leak Current	I _{GSS}	V _{GS} = ±30V, V _{DS} = 0V			±100	nA
Gate Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = 250uA	2	3	4	V
Drain-Source On-Resistance	R _{DS(on)}	V _{GS} = 10V, I _D = 6.5A		0.47	0.55	Ω
Input Capacitance	C _{iss}	V _{DS} = 25V, V _{GS} = 0V, f = 1MHz		1650		pF
Output Capacitance	C _{oss}			160		
Reverse Transfer Capacitance	C _{RSS}			15		
Total Gate Charge	Q _G	V _{GS} = 0 to 10V, V _{DS} = 400V, I _D = 13A		35		nC
Gate to Source Charge	Q _{GS}			7		
Gate to Drain Charge	Q _{GD}			18		
Turn-on Delay Time	T _{D(ON)}	V _{DS} = 250V, I _D = 13A, R _G = 25Ω		23		ns
Rise Time	T _r			15		
Turn-off Delay Time	T _{D(OFF)}			90		
Fall Time	T _f			30		
Maximum Continuous Drain to Source Diode Forward Current	I _S				13	A
Maximum Pulsed Drain to Source Diode Forward Current	I _{SM}				52	A
Drain to Source Diode Forward Voltage	V _{SD}	V _{GS} = 0V, I _S = 13A			1.4	V
Body Diode Reverse Recovery Time	T _{rr}	IF = 13A, di/dt = 100A/us VR=400V		320		ns
Body Diode Reverse Recovery Charge	Q _{rr}			4.2		μC

➤ **Typical Performance Characteristics ($T_J=25^\circ\text{C}$ unless otherwise noted)**

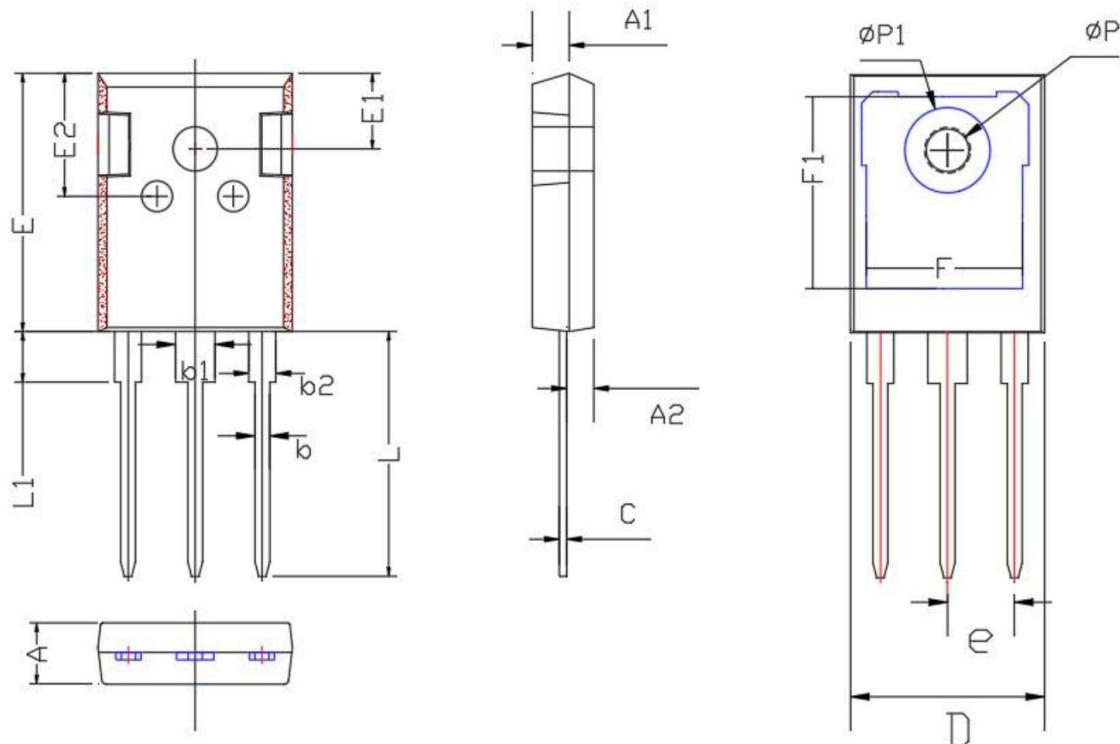


➤ **Typical Performance Characteristics ($T_J=25^\circ\text{C}$ unless otherwise noted)**



➤ Package Information

T0247



Symbol	MILL IMETER			Symbol	MILL IMETER		
	Min	Nom	Max		Min	Nom	Max
A	4.80	5.00	5.20	E1	5.60	5.80	6.20
A1	3.30	3.50	3.70	E2	9.8	10.0	10.2
A2	2.20	2.40	2.60	e	5.25	5.45	5.65
b	1.00	1.20	1.40	F	13.1	13.4	13.7
b1	2.90	3.10	3.30	F1	16.25	16.55	16.85
b2	1.90	2.10	2.30	L	19.5	20.0	20.5
c	0.50	0.60	0.71	L1	4.00	4.20	4.40
D	15.2	15.7	16.2	P	3.30	3.50	3.80
E	20.8	21	21.2	P1	6.80	7.10	7.40



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