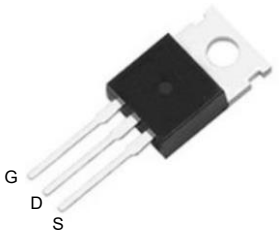
SSCV10N65GT4

N-Channel Enhancement Mode Power MOSFET

➢ Features

V_{DS}	V_{GS}	$R_{DS(ON)}$ Typ.	I_D
650V	±30V	0.84Ω@10V	5A

➢ Pin Configuration

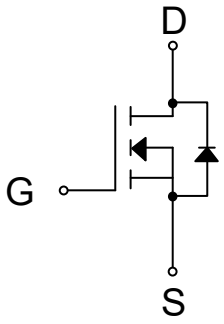


TO220-3L (Top View)

➢ Description

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

100% UIS + ΔVDS + Rg Tested!



Pin Configuration

➢ Applications

- Load Switch
- PWM Application
- Power Management

➢ Ordering Information

Device	Package	Shipping
SSCV10N65GT4	TO220-3L	50/Tube

Marking

(XXYY: Internal Traceability Code)

➢ Absolute Maximum Ratings (T_J=25℃ unless otherwise noted)

Symbol	Parameter		Ratings	Unit
V_{DSS}	Drain-to-Source Voltage		650	V
V_{GSS}	Gate-to-Source Voltage		±30	V
I_D	Continuous Drain Current	T_J=25℃	10	A
		T_J=100℃	6	
I_{DM}	Pulsed Drain Current [a]		40	A
E_{AS}	Single Pulsed Avalanche Energy		405	mJ
P_D	Power Dissipation, T_J=25℃		125	W
T_{STG} /T_J	Junction & Storage Temperature Range		-55 to 150	℃

➢ Thermal Resistance Ratings (T_J=25℃ unless otherwise noted)

Symbol	Parameter	Ratings	Unit
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient[b]	62	℃/W
$R_{\theta JC}$	Thermal Resistance, Junction to Case	1	

Note:

a. Repetitive Rating: Pulsed width limited by maximum junction temperature.

b. $R_{\theta JA}$ is measured with the device mounted on a minimum recommended pad of 2oz copper FR4 PCB.

➢ Electrical Characteristics (T_J=25℃ unless otherwise noted)

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	V_{GS} = 0V, I_D = 250μA	650			V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS} = 650V, 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 = 5A		0.84	1.09	Ω
Input Capacitance	C_{ISS}	V_{DS} = 25V, V_{GS} = 0V, f = 1MHz		1560		pF
Output Capacitance	C_{OSS}			136		
Reverse Transfer Capacitance	C_{RSS}			19		
Total Gate Charge	Q_G	V_{GS} = 0 to 10V, V_{DS} = 520V, I_D = 10A		37		nC
Gate to Source Charge	Q_{GS}			8		
Gate to Drain Charge	Q_{GD}			15		
Turn-on Delay Time	$T_{D(ON)}$	V_{GS} = 10V, V_{DS} = 310V, I_D = 10A, R_G = 24Ω		23		ns
Rise Time	T_r			37		
Turn-off Delay Time	$T_{D(OFF)}$			104		
Fall Time	T_f			45		
Maximu Continuous Drain to Source Diode Forward Current	I_S				10	A
Maximum Pulsed Drain to Source Diode Forward Current	I_{SM}				40	A
Drain to Source Diode Forward Voltage	V_{SD}	VGS = 0V, IS = 10A			1.2	V
Body Diode Reverse Recovery Time	Trr	IF = 10A, di/dt = 100A/us		423		ns
Body Diode Reverse Recovery Charge	Qrr			4.4		μC

➢ Typical Performance Characteristics (T_J=25℃ unless otherwise noted)

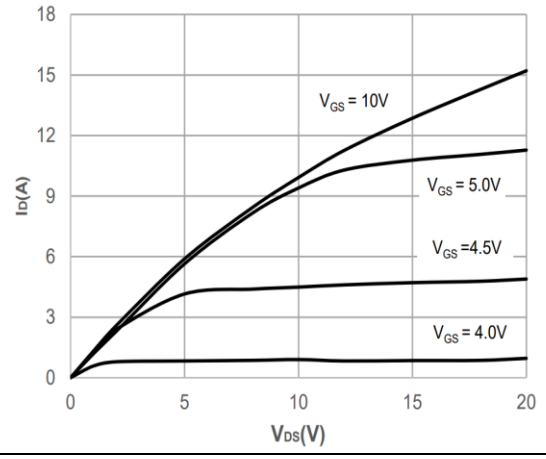


Figure 1: Output Characteristics

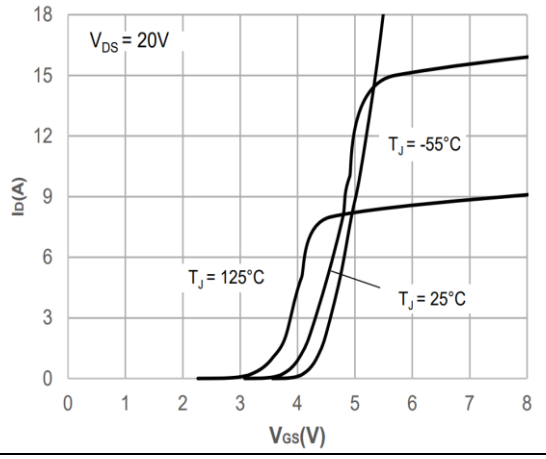


Figure 2: Typical Transfer Characteristics

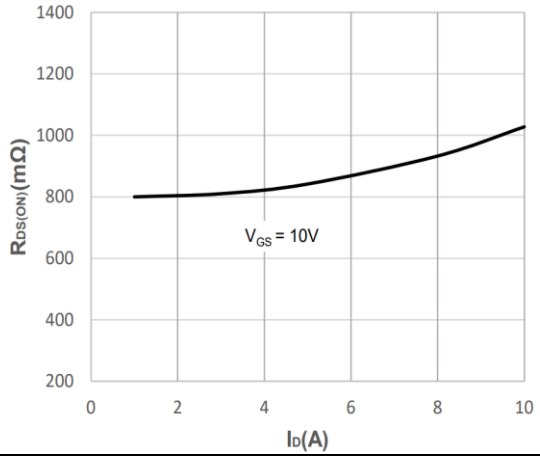


Figure 3: On-resistance vs. Drain Current

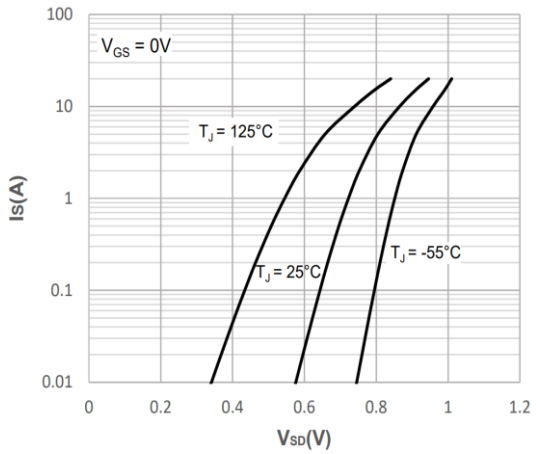


Figure 4: Body Diode Characteristics

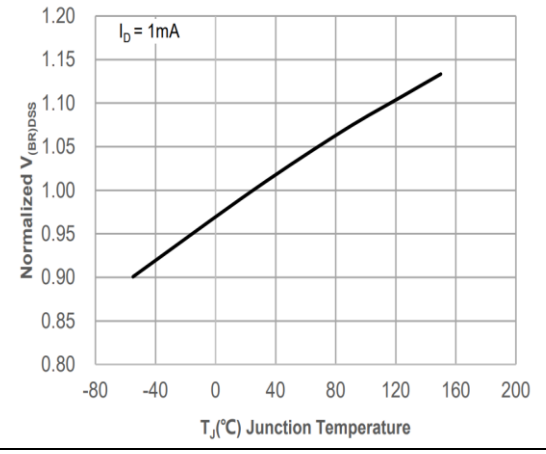


Figure 5: Normalized Breakdown voltage vs. Junction Temperature

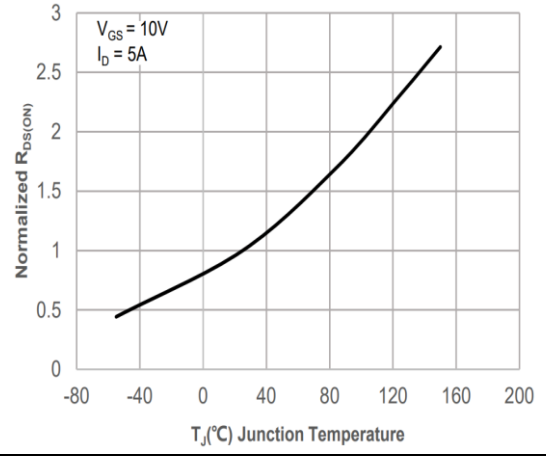


Figure 6: Normalized on Resistance vs. Junction Temperature

➢ Typical Performance Characteristics (T_J=25℃ unless otherwise noted)

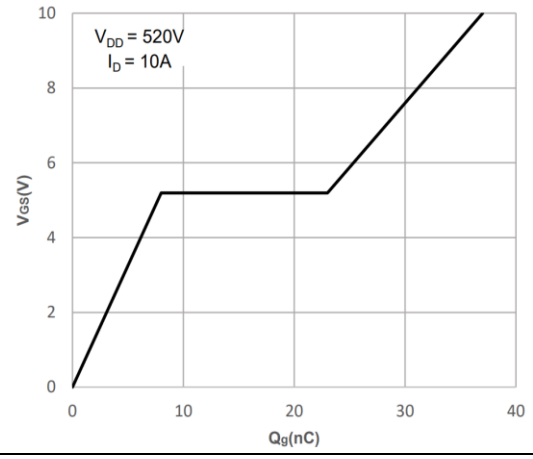


Figure 7: Gate Charge Characteristics

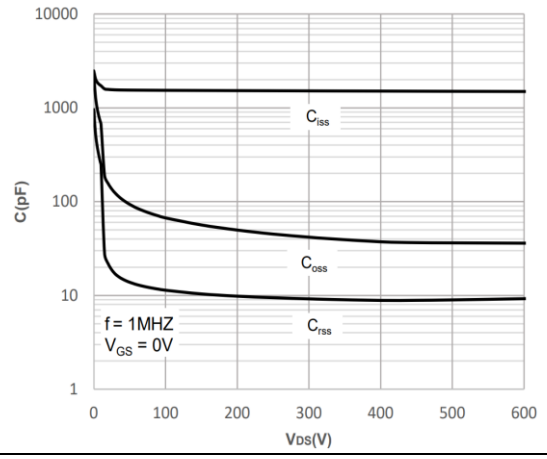


Figure 8: Capacitance Characteristics

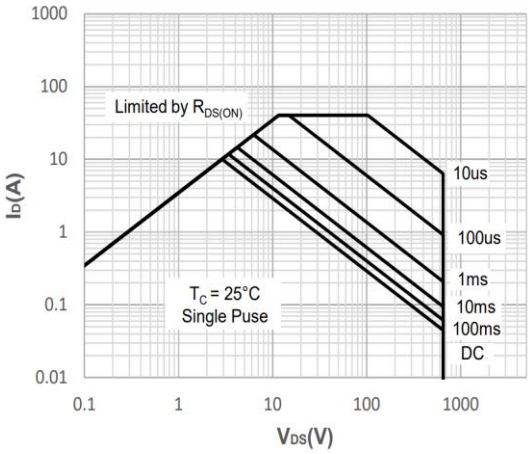


Figure 9: Maximum Safe Operating Area

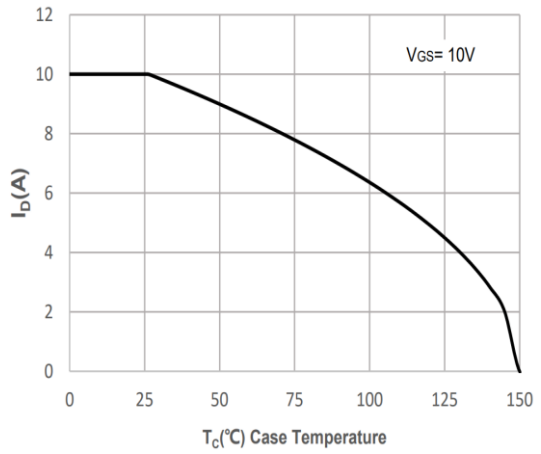


Figure 10: Maximum Continuous ID vs. Case Temperature

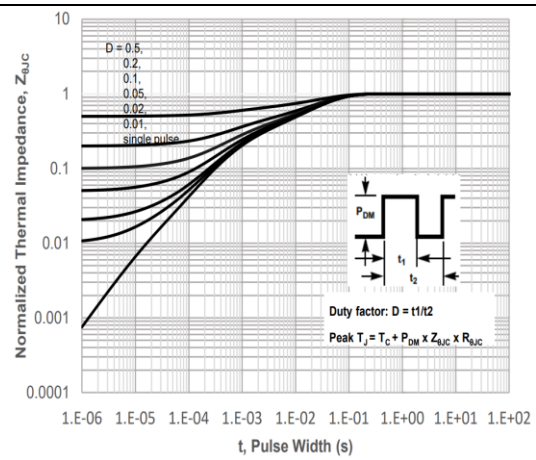


Figure 11: Normalized Maximum Transient Thermal Impedance

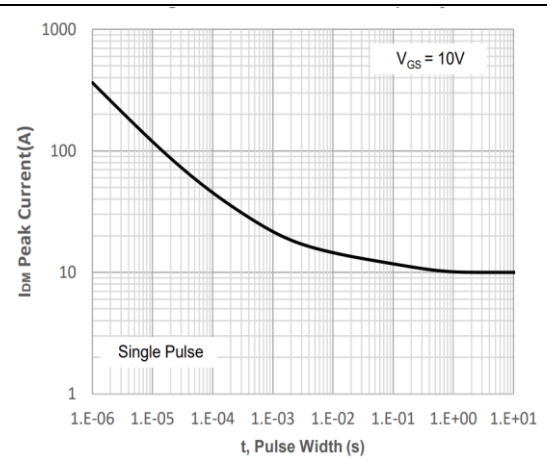
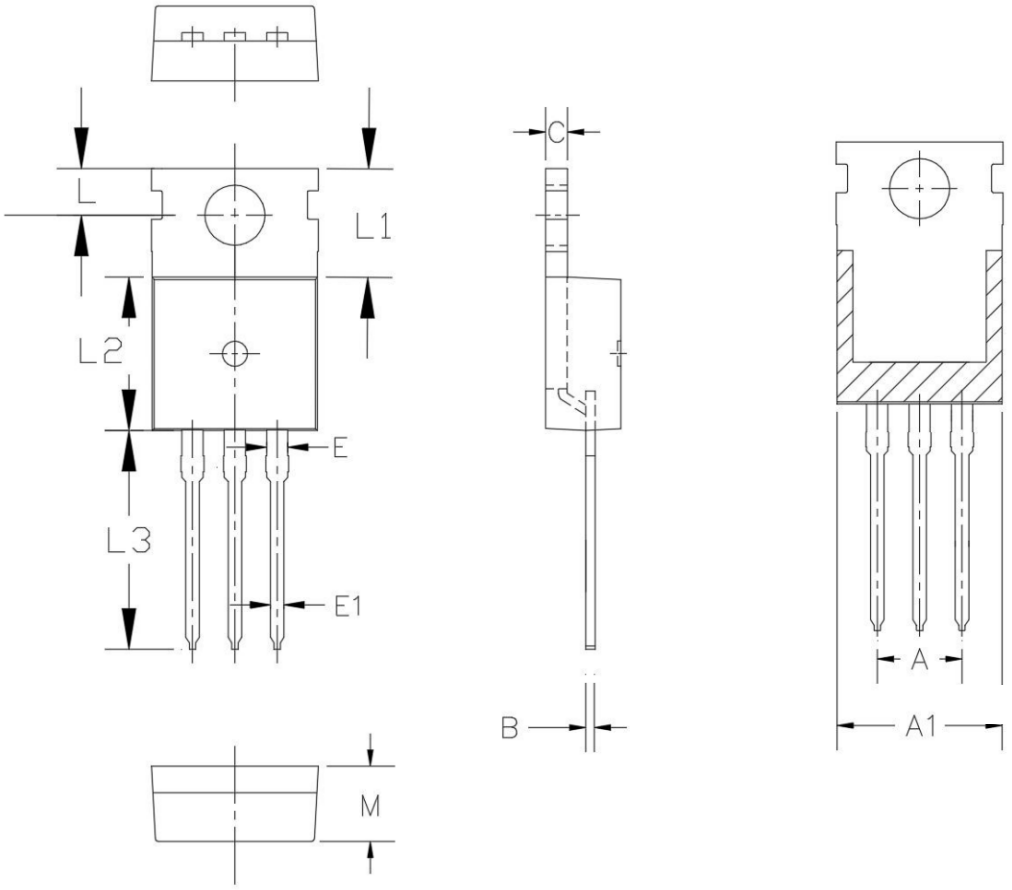


Figure 12: Peak Current Capacity

➢ Package Information

TO220-3L



Symbol	MILL IMETER		
	Min	Nom	Max
A		5.08 BSC	
A1	9.00	10.00	11.00
B	0.33	--	0.65
C	1.20	--	1.40
E	1.17	--	1.37
E1	0.60	--	1.10
L	2.50	--	3.00
L1	6.3	6.5	6.7
L2	8.95	--	9.75
L3	12.88	--	13.40
M	4.30	--	4.70

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