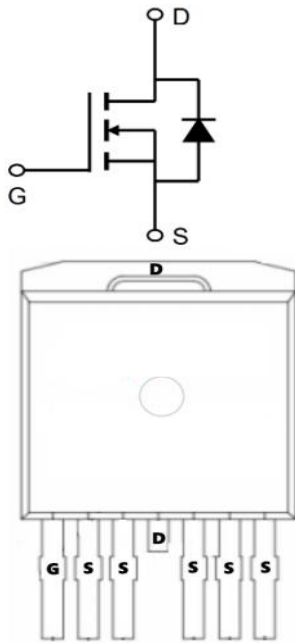


Description

The SX340N08TLG1 uses advanced technology to provide excellent $R_{DS(ON)}$, low gate charge and operation with gate voltages as low as 10V. This device is suitable for use as a Battery protection or in other Switching application.



General Features

$V_{DS} = 85V$ $I_D = 340A$

$R_{DS(ON)} < 1.8m\Omega$ @ $V_{GS}=10V$

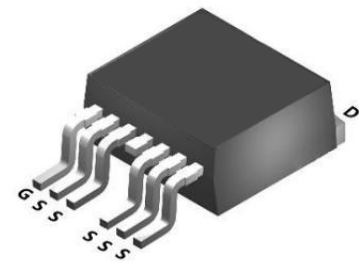
Application

DC/DC Converter

LED Backlighting

Power Management Switches

TO-263-6L



Absolute Maximum Ratings ($T_c=25^\circ C$ unless otherwise noted)

Symbol	Parameter	Rating	Units
V_{DS}	Drain-Source Voltage	85	V
V_{GS}	Gate-Source Voltage	± 20	V
$I_D @ T_c=25^\circ C$	Continuous Drain Current, V_{GS} @ 10V	340	A
$I_D @ T_c=100^\circ C$	Continuous Drain Current, V_{GS} @ 10V	220	A
I_{DM}	Pulsed Drain Current	960	A
E_{AS}	Single Pulse Avalanche Energy	2025	mJ
I_{AS}	Avalanche Current	53.4	A
$P_D @ T_c=25^\circ C$	Total Power Dissipation ⁴	313	W
TSTG	Storage Temperature Range	-55 to 175	$^\circ C$
T_J	Operating Junction Temperature Range	-55 to 175	$^\circ C$
$R_{\theta JA}$	Thermal Resistance Junction-Ambient	0.54	$^\circ C/W$
$R_{\theta JC}$	Thermal Resistance Junction-Case	40	$^\circ C/W$

Electrical Characteristics (T_C=25°C unless otherwise noted)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
V(BR)DSS	Drain-Source Breakdown Voltage	V _{GS} = 0V, I _D = 250μA	85	92	-	V
IGSS	Gate-body Leakage current	V _{DS} = 0V, V _{GS} = ±20V	-	-	±100	nA
IDSS	Zero Gate Voltage Drain Current T _J =25°C	V _{DS} =85V, V _{GS} = 0V	-	-	1	μA
	Zero Gate Voltage Drain Current T _J =100°C		-	-	100	
VGS(th)	Gate-Threshold Voltage	V _{DS} = V _{GS} , I _D = 250μA	2.0	3.0	4.0	V
RDS(on)	Drain-Source on-Resistance ⁴	V _{GS} = 10V, I _D = 50A	-	1.35	1.8	mΩ
gfs	Forward Transconductance ⁴	V _{DS} = 5V, I _D = 40A	-	145	-	S
Ciss	Input Capacitance	V _{DS} = 50V, V _{GS} =0V, f =1MHz	-	13590	-	pF
Coss	Output Capacitance		-	2000	-	
Crss	Reverse Transfer Capacitance		-	586.2	-	
R _g	Gate Resistance	f =1MHz	-	2	-	Ω
Q _g	Total Gate Charge	V _{GS} = 10V, V _{DS} = 50V, I _D =20A	-	205	-	nC
Q _{gs}	Gate-Source Charge		-	54	-	
Q _{gd}	Gate-Drain Charge		-	46	-	
td(on)	Turn-on Delay Time	V _{GS} =10V, V _{DD} =40V, R _G =3Ω, I _D = 20A	-	38	-	ns
t _r	Rise Time		-	132	-	
td(off)	Turn-off Delay Time		-	126	-	
t _f	Fall Time		-	153	-	
trr	Body Diode Reverse Recovery Time	I _F =30A, dI/dt=500A/μs	-	112	-	ns
Q _{rr}	Body Diode Reverse Recovery Charge	I _F =30A, dI/dt=500A/μs	-	213	-	nC
VSD	Diode Forward Voltage ⁴	I _S =50A, V _{GS} = 0V	-	0.85	1.2	V
IS	Continuous Source Current T _C =25°C	-	-	-	300	A

Notes:

- 1、The data tested by surface mounted on a 1 inch² FR-4 board with 2OZ copper.
- 2、The data tested by pulsed , pulse width ≤ 300us , duty cycle ≤ 2%
- 3、The EAS data shows Max. rating . The test condition is V_{DD}=50V, V_{GS}=10V, L=0.5mH, I_{AS}=50A
- 4、The power dissipation is limited by 150°C junction temperature
- 5、The data is theoretically the same as I_D and I_{DM} , in real applications , should be limited by total power dissipation.

Typical Characteristics

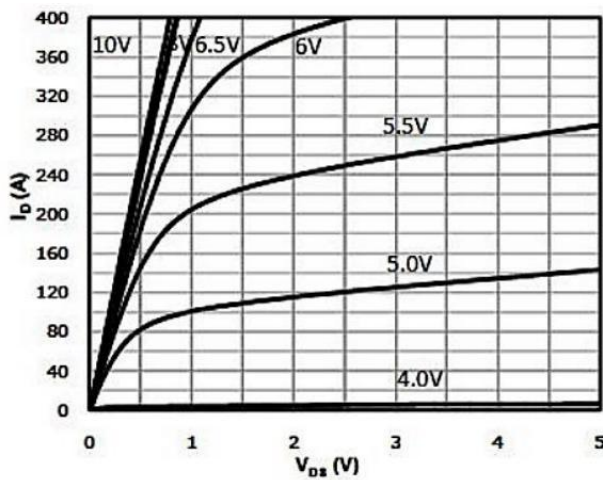


Figure 1. Output Characteristics

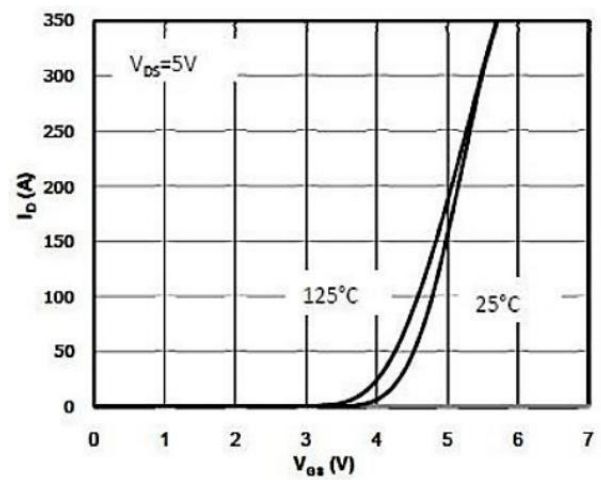


Figure 2. Transfer Characteristics

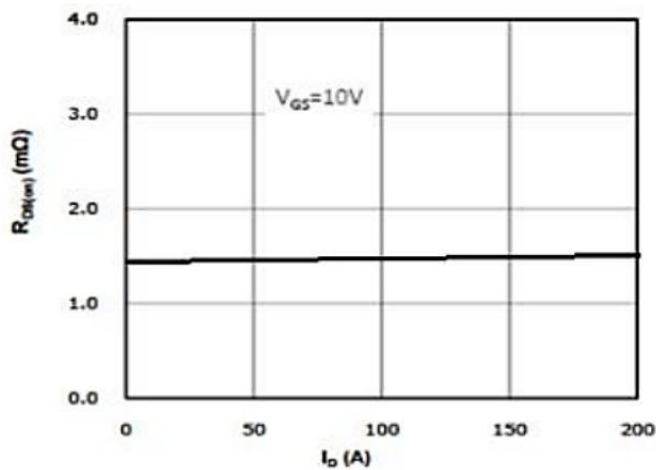


Figure 3. R_DS (ON) VS Drain Current and V_GS

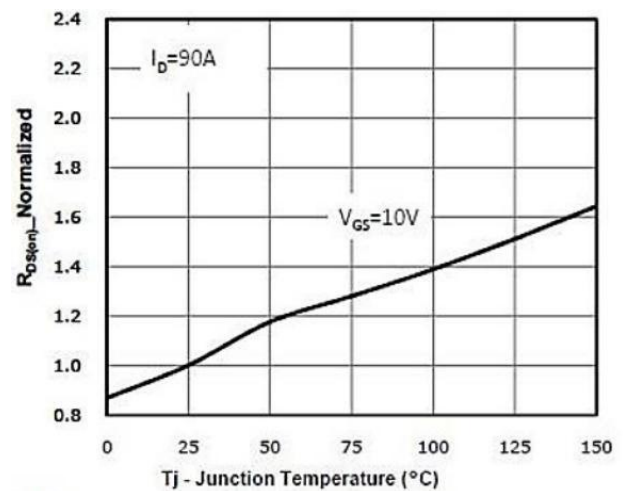


Figure 4. R_DS(ON) vs. V_GS

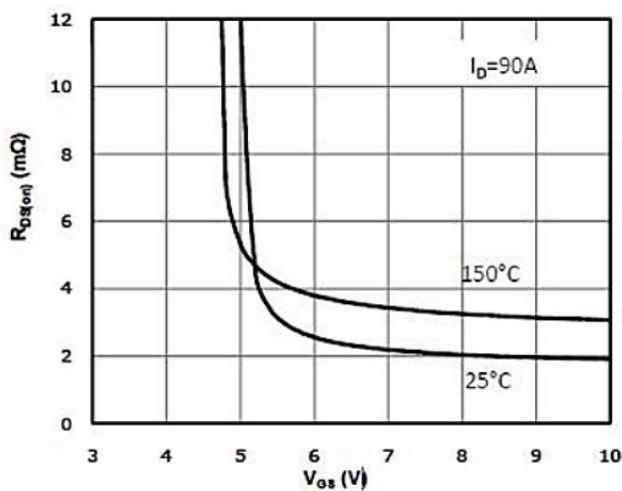


Figure 5. R_DS(ON) vs. Temperature

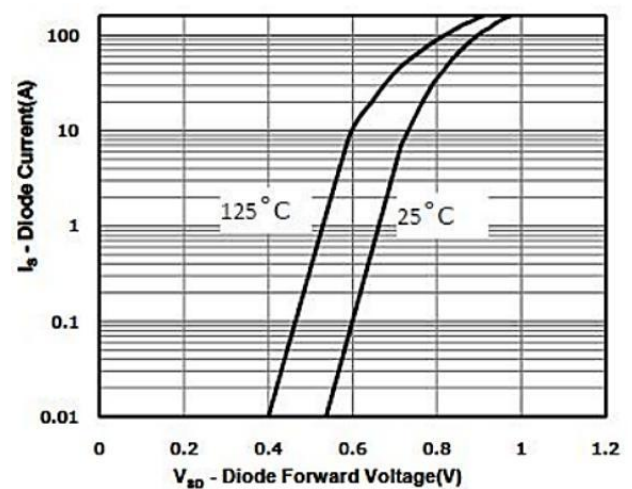


Figure 6. Capacitance Characteristics

Typical Characteristics

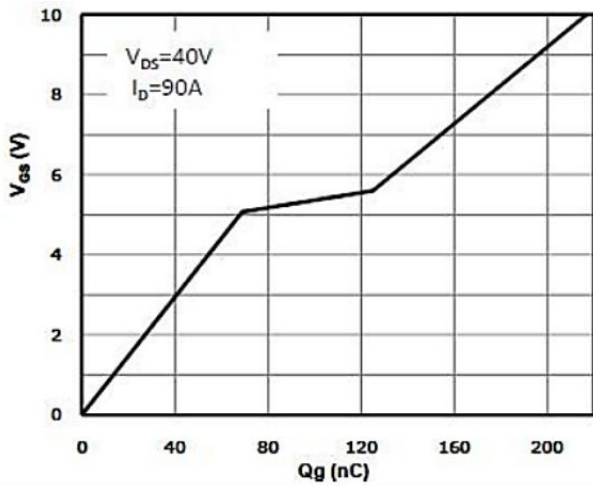


Figure 7. Gate Charge Characteristics

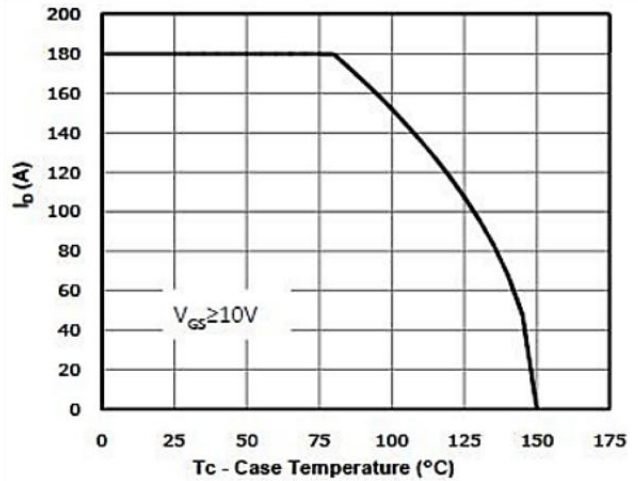


Figure 8. Body-Diode Forward Characteristics

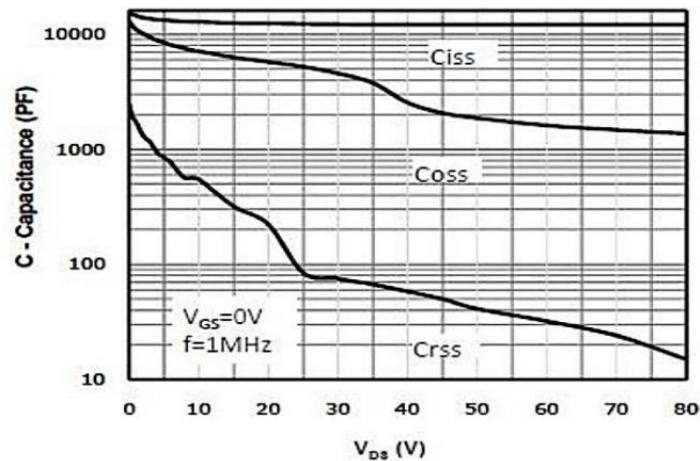


Figure 9. Capacitance Characteristics

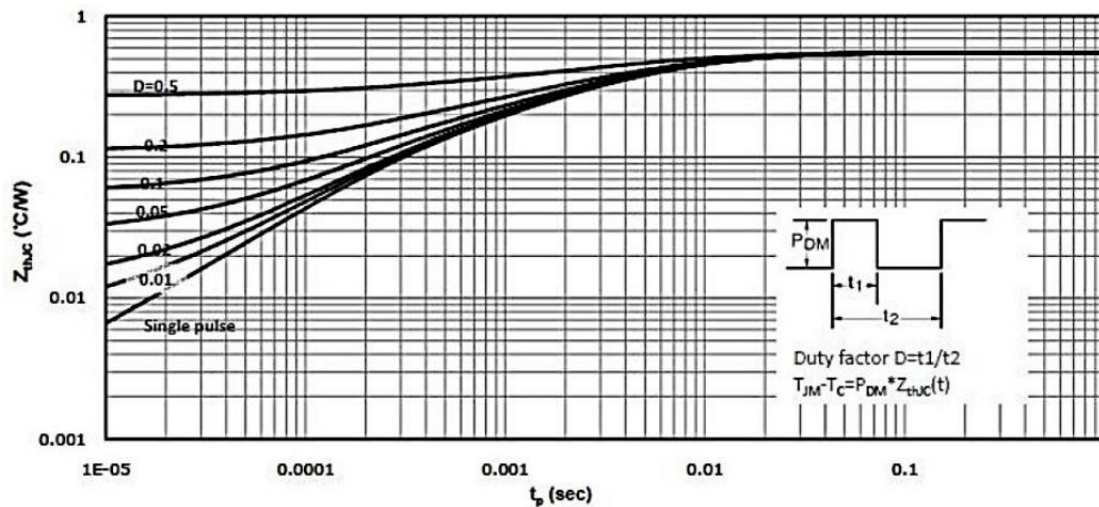
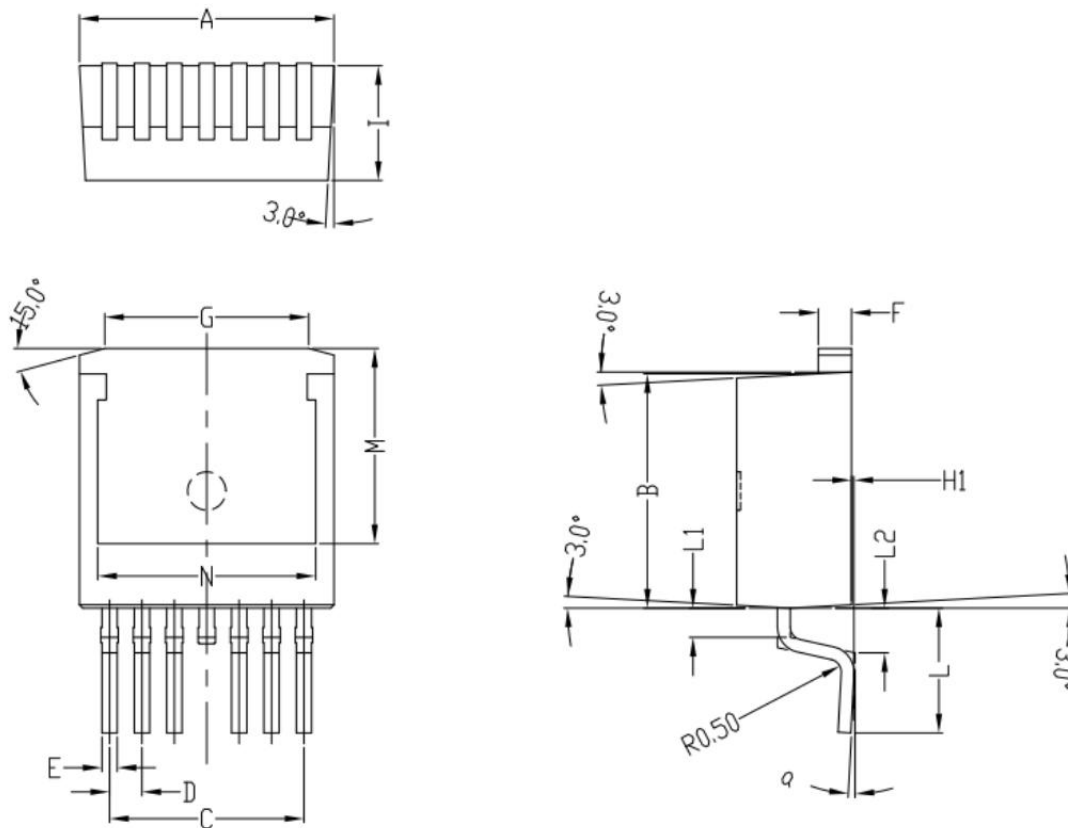


Figure 10.

Package Mechanical Data-TO263-6L



Symbol	Common		
	Mim	Nom	Max
A	9.88	9.98	10.08
B	9.09	9.19	9.29
C	7.54	7.62	7.70
D	1.23	1.27	1.31
E	0.55	0.6	0.65
F	1.27	1.30	1.33
G	7.7	8	8.3
H1	-0.1	+0.10	+0.2
I	4.42	4.50	4.58
L	4.60	4.90	5.20
L1	1.05	1.15	1.25
L2	1.66	1.76	1.86
a	-7°	0°	7°
N	8.25	8.55	8.85
M	7.36	7.66	7.96

Package Marking and Ordering Information

Product ID	Pack	Marking	Qty(PCS)
TAPING	TO263-6L		800