N Channel Enhancement

- High speed switchin

(Tc = 25°C unless otherwise specified)

V

Q_{gs}	Gate source charge	-	12	-	nC	V_{DS} = 500V, V_{GS} = -4/+18V I_D = 22A	Fig.12
Q_{gd}	Gate drain charge	-	12	-			
Q_g	Gate charge	-	38	-			

(Tc = 25°C unless otherwise specified,the data comes from TO-247-4L)

E_{on}	Turn on switching energy	-	85	-	μJ	V_{DS} = 500V, V_{GS} = -4/+18V I_D = 22A, Rg = 2.5Ω L = 120μH	
E_{off}	Turn off switching energy	-	31	-			
$t_{d\ on}$	Turn on delay time	-	10.7	-	ns		
t_r	Rise time	-	11.6	-			
$t_{d\ off}$	Turn off delay time	-	21	-			
t_f	Fall time	-	9.5	-			

(The data comes from TO-247-4L)

V_{SD}	Diode forward voltage	-	3.7	-	V	V_{GS} = -4V, I_{SD} = 11A	Fig.8,9, 10
		-	3.2	-	V	V_{GS} = -4V, I_{SD} = 11A T_J = 175°C	
I_S	Continuous diode forward current	-	54	-	A	V_{GS} = -4V, Tc = 25°C	Note2
t_{rr}	Reverse recovery time	-	25	-	ns	V_R = 500V, V_{GS} = -4V I_{SD} = 22A di/dt = 2111A/μs T_J = 175°C	
Q_{rr}	Reverse recovery charge	-	246	-	nC		
I_{rrm}	Peak reverse recovery current	-	17	-	A		

Note 2: When using SiC Body Diode the maximum recommended V_{GS} = -4 V

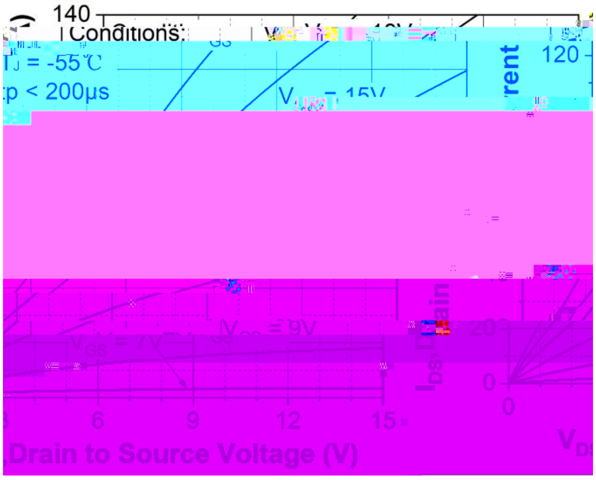

Figure 1. Output characteristics T_J = -55 ºC

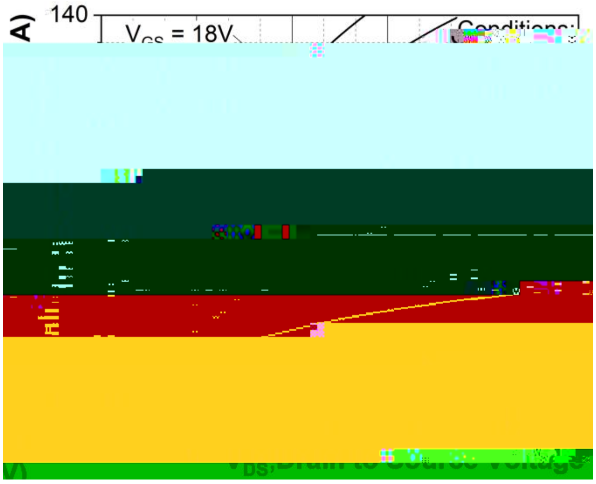

Figure 2. Output characteristics T_J = 25 ºC

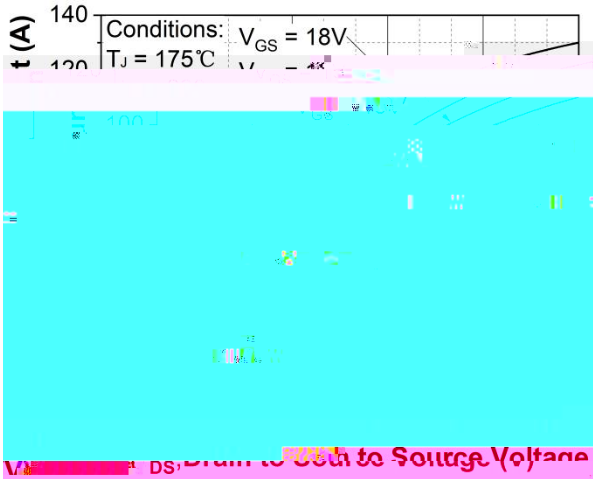

Figure 3. Output characteristics T_J = 175 ºC

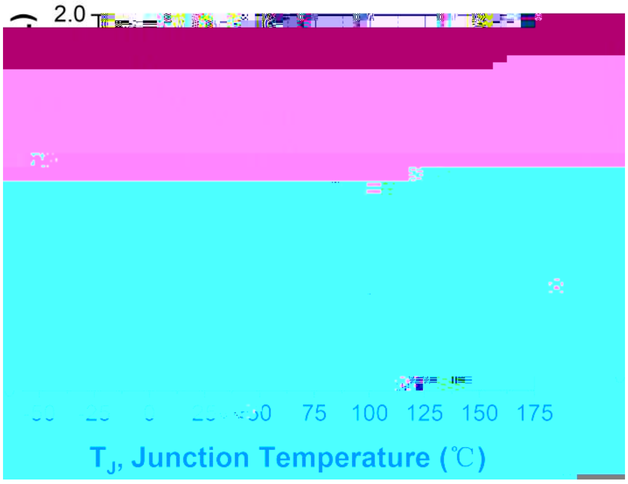

Figure 4. Normalized on-resistance vs. temperature

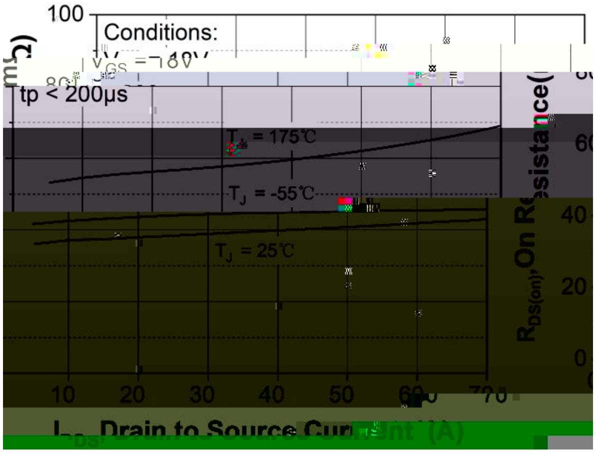

Figure 5. On-resistance vs. drain current for various temperatures

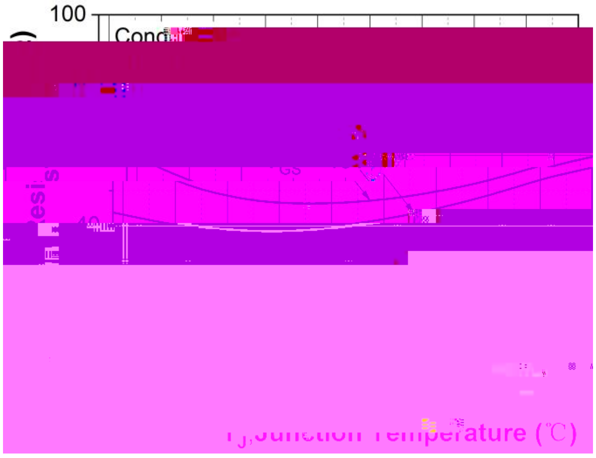

Figure 6. On-resistance vs. temperature for various gate voltages

Figure 7. Transfer characteristic for various junction temperatures

Figure 8. Body diode characteristic at T_J = -55 ºC

Figure 9. Body diode characteristic at T_J = 25 ºC

Figure 10.

Die size W x L	2.800*3.400	mm
Gate pad size W x L	0.800*0.800	mm
Die thickness	175	µm

Top side source gate

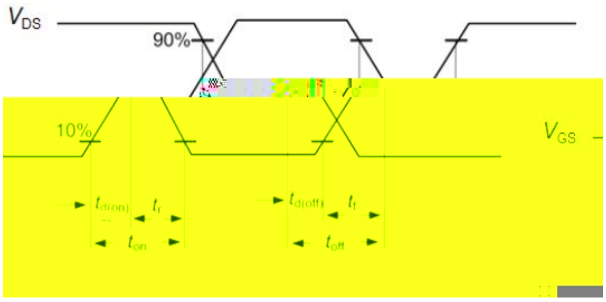

Figure A. Definition of switching times

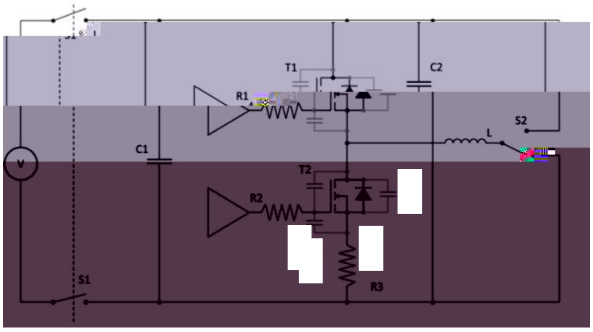

Figure B. Dynamic test circuit

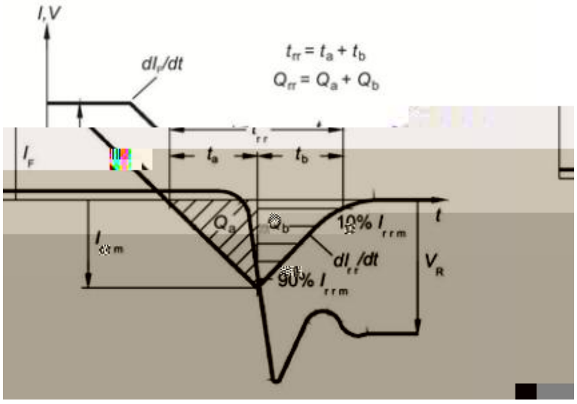

Figure C. Definition of body diode switching characteristics

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