



N Channel Enhancement

- High speed switching
- Very low switching losses
- High blocking voltage with low on-resistance
- Temperature independent turn-off switching losses
- Halogen free, RoHS compliant

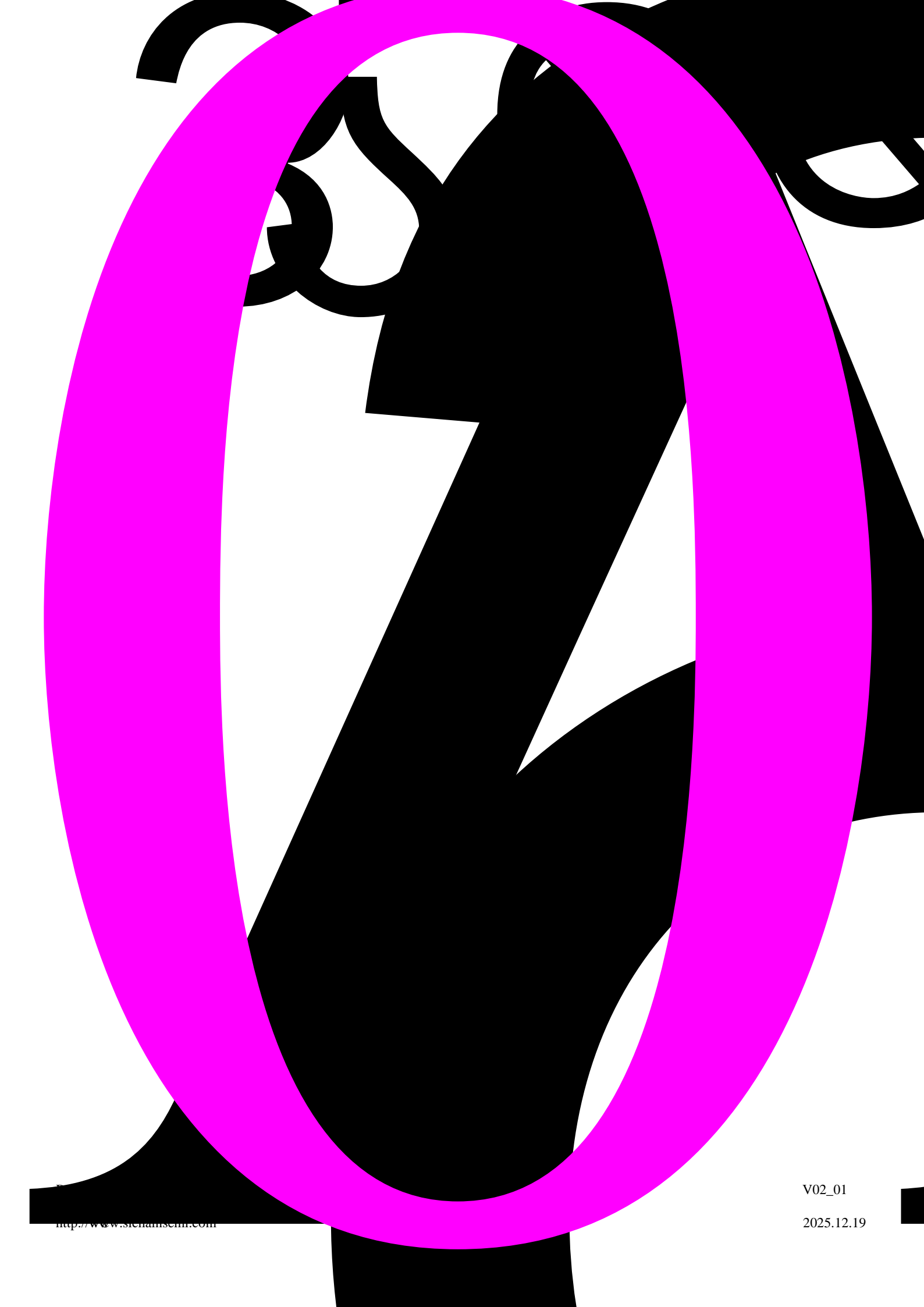
- Cooling effort reduction
- Efficiency improvement
- Reduced cooling requirements
- Increased power density
- Increased system switching frequency

SG1M160120B	1.850 * 2.645

- EV motor drive
- Solar inverters
- High voltage DC/DC converters
- Switch mode power supplies

($T_C = 25^\circ\text{C}$,
 $R_{th(j-c),max} = 1.23^\circ\text{C/W}$)







(Tc = 25°C unless otherwise specified)

V _{DS,max}	Drain source voltage	1200	v	V _{GS} = 0V, I _D = 100μA	
V _{GS,max}	Gate source voltage	-8 /+19	v	Absolute maximum values	No



(Tc = 25°C unless otherwise specified)

$V_{(BR)DSS}$	Drain-source breakdown voltage	1200	-	-	V	$V_{GS} = 0V, I_D = 100\mu A$
		2.3	2.8	3.6	V	$V_{DS} = V_{GS}, I_D = 2.33mA$
$V_{GS(th)}$	Gate threshold voltage	-	2.0	-	V	$V_{DS} = V_{GS}, I_D = 2.33mA,$ $T_J = 175^\circ C$
I_{DSS}	Zero gate voltage drain					

Fig.11

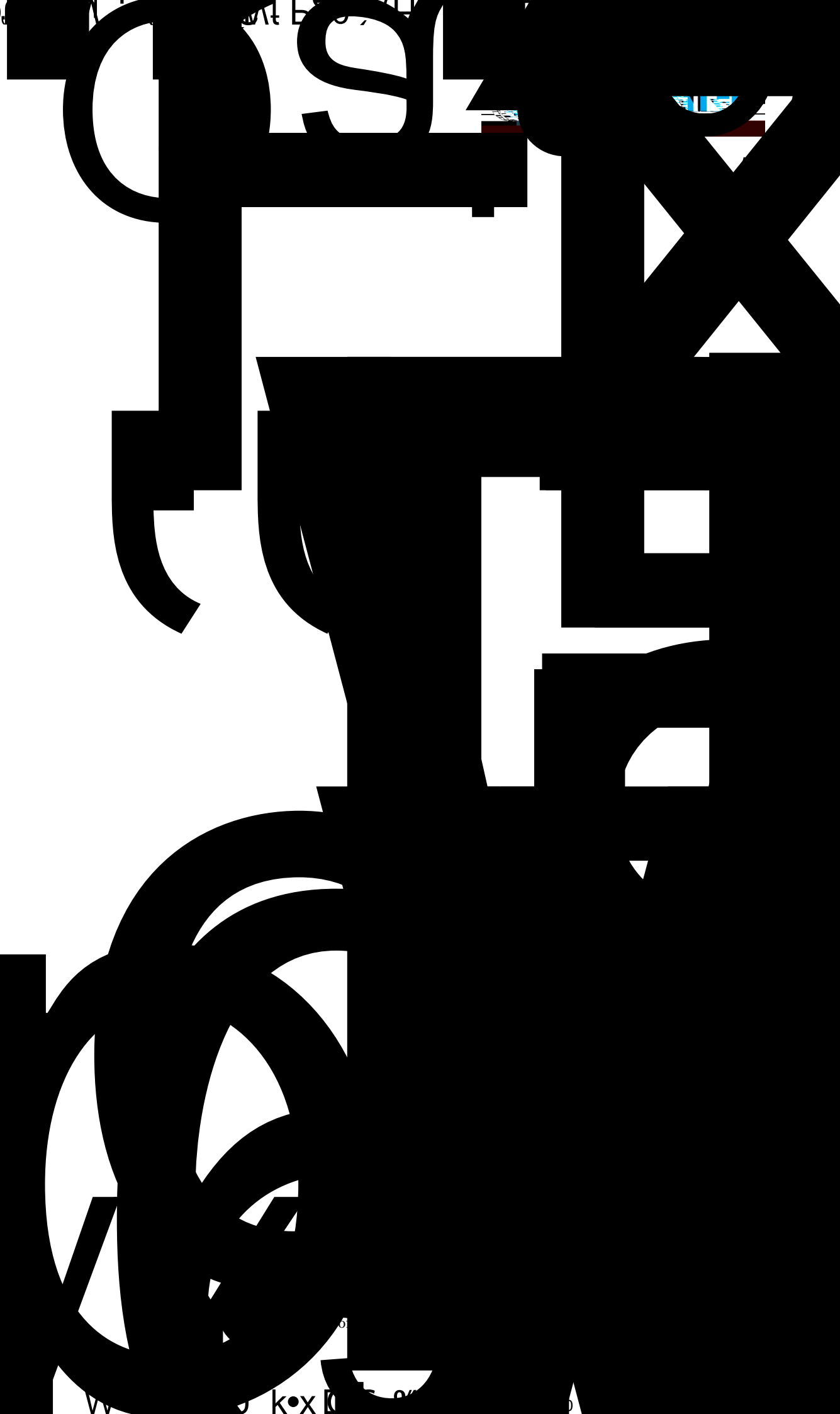


Figure 1. Output characteristics $T_J = -55\text{ }^\circ\text{C}$

Figure 2. Output characteristics $T_J = 25\text{ }^\circ\text{C}$

Figure 3. Output characteristics

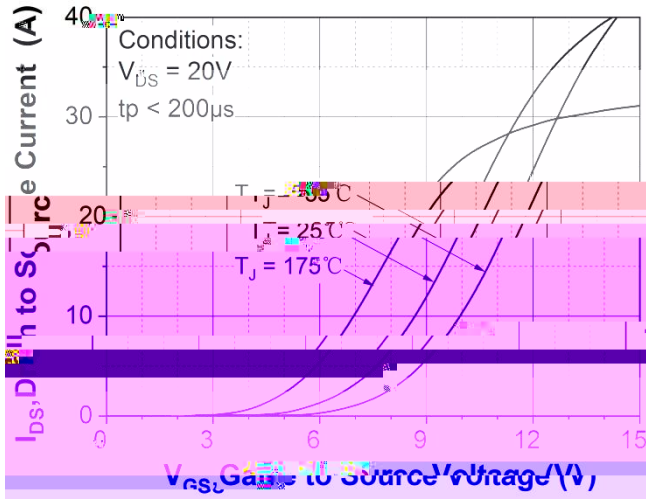


Figure 7. Transfer characteristic for various junction temperatures

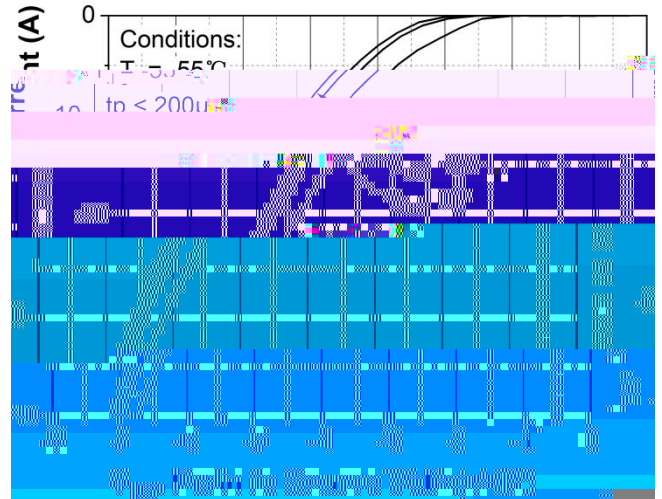


Figure 8. Body diode characteristic at $T_J = -55^\circ\text{C}$

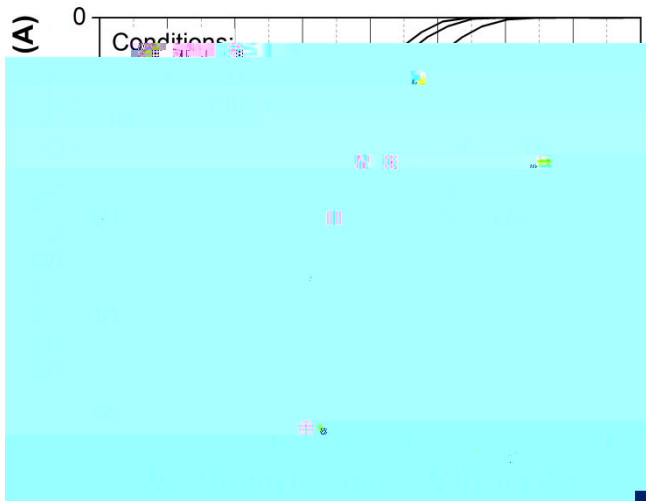


Figure 9. Body diode characteristic at $T_J = 25^\circ\text{C}$

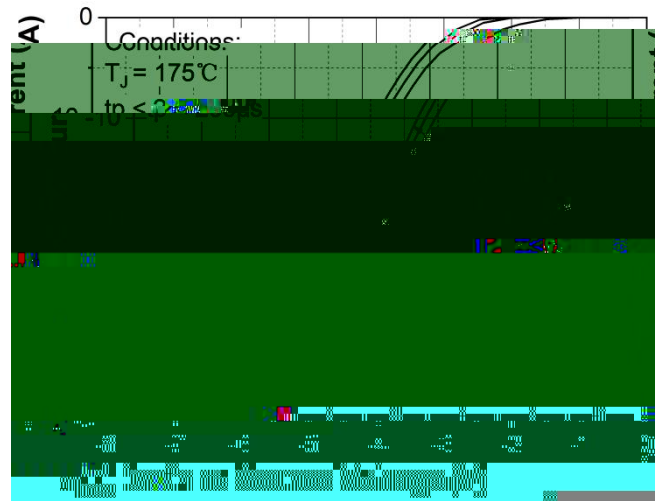


Figure 10. Body diode characteristic at $T_J = 175^\circ\text{C}$

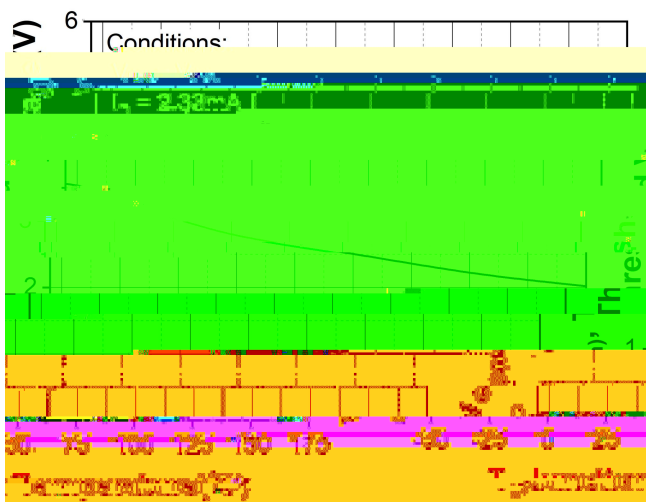


Figure 11. Threshold voltage vs. temperature

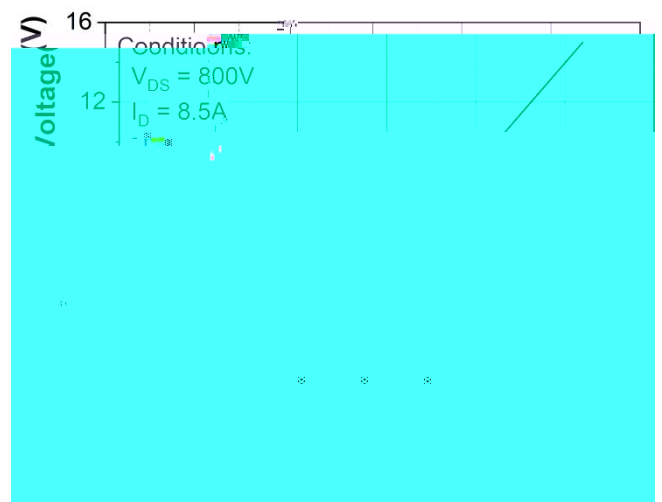
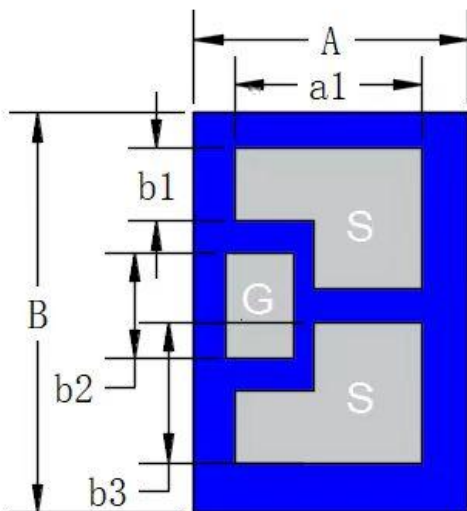


Figure 12. Gate charge characteristic

Die size W x L	1.850 * 2.645	mm	
Gate pad size W x L	0.449 * 0.749	mm	
Die thickness	180	μm	
Top side source gate metallization	4	μm	Ti/Al
Back side drain metallization	1	μm	Ti/Ni/Ag



Symbol	Dimension / mm
B	2.645
b1	0.478
b2	0.749
b3	0.900
A	1.850
a1	1.249

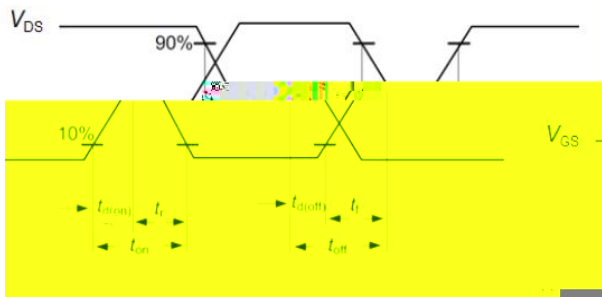


Figure A. Definition of switching times

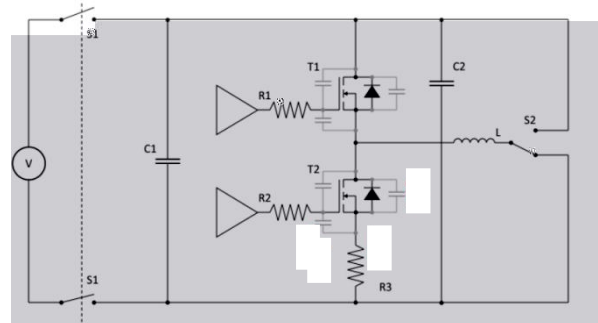


Figure B. Dynamic test circuit

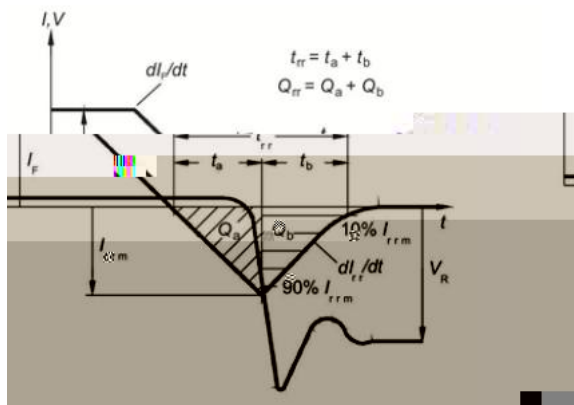


Figure C. Definition of body diode switching characteristics

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7. Except otherwise



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