

Absolute maximum ratings ($T_C=25^{\circ}\text{C}$ unless otherwise noted)

Characteristic	Symbol	Rating	Unit	
Drain-source voltage	V_{DSS}	250	V	
Gate-source voltage	V_{GSS}	± 30	V	
Drain current (DC) *	I_D	$T_C=25^{\circ}\text{C}$	16	A
		$T_C=100^{\circ}\text{C}$	7.2	A
Drain current (Pulsed) *	I_{DM}	64	A	
Power dissipation	P_D	35	W	
Avalanche current (Single) ②	I_{AS}	16	A	
Single pulsed avalanche energy ②	E_{AS}	480	mJ	
Avalanche current (Repetitive) ①	I_{AR}	16	A	
Repetitive avalanche energy ①	E_{AR}	13.9	mJ	
Junction temperature	T_J	150	$^{\circ}\text{C}$	
Storage temperature range	T_{stg}	-55~150		

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Characteristic	Symbol	Typ.	Max.	Unit	
Thermal resistance	Junction-case	$R_{th(J-C)}$	-	3.57	$^{\circ}\text{C}/\text{W}$
	Junction-ambient	$R_{th(J-A)}$	-	62.5	

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

Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Drain-source breakdown voltage	BV _{DSS}	I _D =250μA, V _{GS} =0V	250	-	-	V
Gate threshold voltage	V _{GS(th)}	I _D =250μA, V _{DS} =V _{GS}	2.0	-	4.0	V
Drain-source cut-off current	I _{DSS}	V _{DS} =250V, V _{GS} =0V	-	-	1	μA
Gate leakage current	I _{GSS}	V _{DS} =0V, V _{GS} =±30V	-	-	±100	nA
Drain-source on-resistance ④	R _{DS(on)}	V _{GS} =10V, I _D =8.0A	-	0.22	0.27	Ω
Forward transfer conductance ④	g _{fs}	V _{DS} =10V, I _D =8.0A	-	10.5	-	S
Input capacitance	C _{iss}	V _{GS} =0V, V _{DS} =25V f=1 MHz	-	968	1275	pF
Output capacitance	C _{oss}		-	204	278	
Reverse transfer capacitance	C _{rss}		-	49	64	
Turn-on delay time	t _{d(on)}	V _{DD} =125V, I _D =16A R _G =25Ω	-	15	-	ns
Rise time	t _r		-	130	-	
Turn-off delay time	t _{d(off)}		-	135	-	
Fall time	t _f		-	105	-	
Total gate charge	Q _g	V _{DS} =200V, V _{GS} =10V I _D =16A	-	22	28	nC
Gate-source charge	Q _{gs}		-	7.1	-	
Gate-drain charge	Q _{gd}		-	5.9	-	

Source-Drain Diode Ratings and Characteristics (T_C=25°C unless otherwise noted)

Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Source current (DC)	I _S	Integral reverse diode in the MOSFET	-	-	16	A
Source current (Pulsed) ①	I _{SM}		-	-	64	
Forward voltage ④	V _{SD}	V _{GS} =0V, I _S =16A	-	-	1.4	V
Reverse recovery time	t _{rr}	I _S =16A, V _{GS} =0V dI _F /dt=100A/μs	-	208	-	ns
Reverse recovery charge	Q _{rr}		-	1.63	-	μC

Pqv="

① Tgrgvkxg"tcvki"<"Rwnug"ykvj"nkvkf"d{"oczko"lwpevkq"vgo rgtcwtg

② N?502o J."kcu?38C."XFF?72X."TI?47á."Uvctvki"VL?47°C

③ Rwnug"Vguv"<"Rwnug"ykvjÖ522wu."Fwv{"e{engÖ4 '

④ Guugpvkcm{"kpfgrgpgpv"qh"qrgtcvki"vgo rgtcwtg

Electrical Characteristic Curves

Fig. 1 $I_D - V_{DS}$

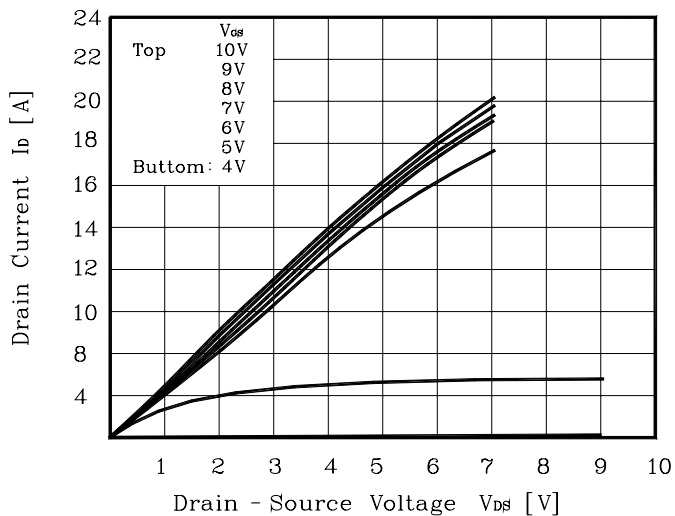


Fig. 2 $I_D - V_{GS}$

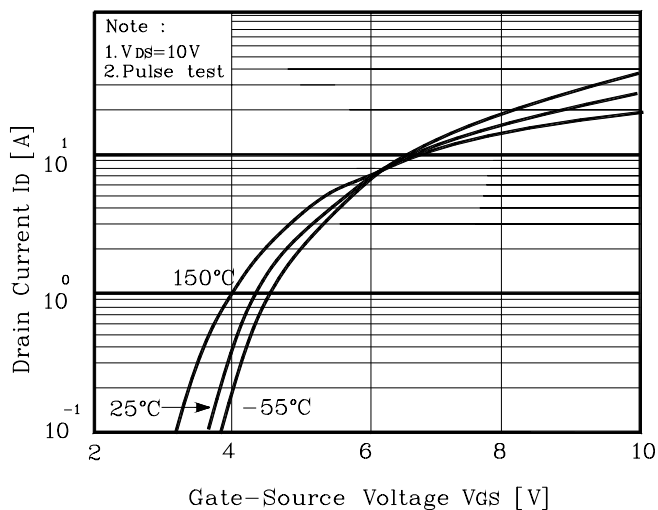


Fig. 3 $R_{DS(on)} - I_D$

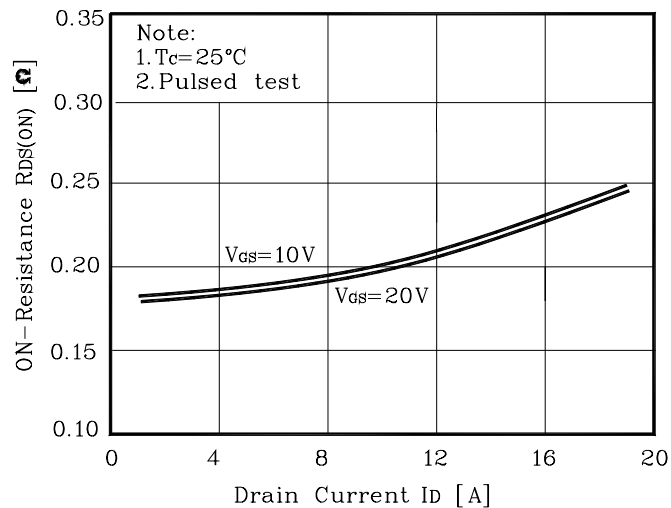


Fig. 4 $I_S - V_{SD}$

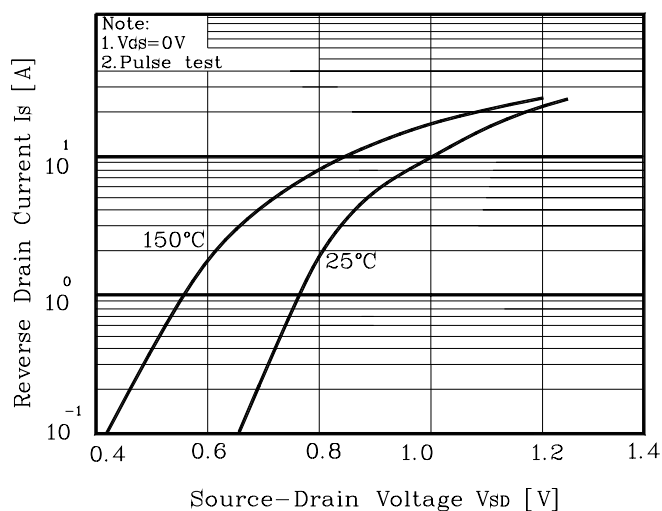


Fig. 5 Capacitance - V_{DS}

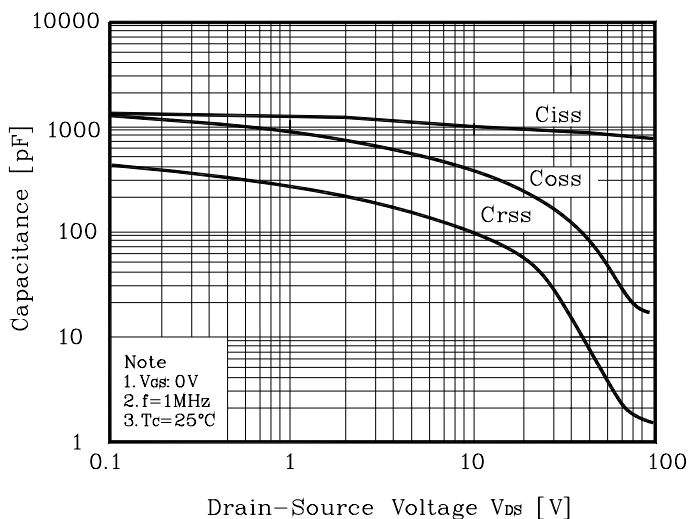


Fig. 6 $V_{GS} - Q_G$

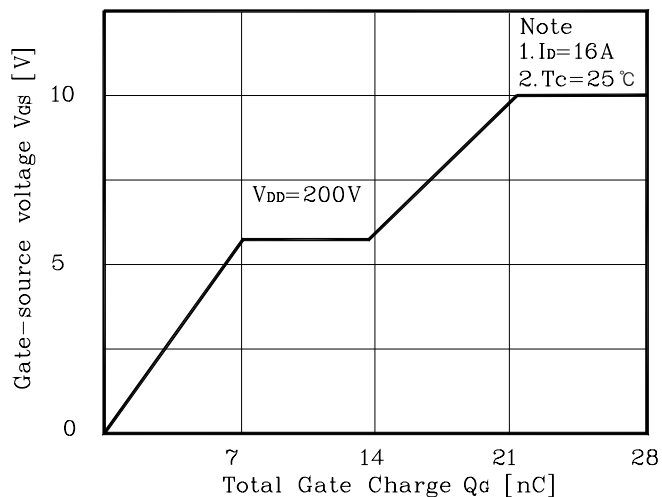


Fig. 7 $V_{DSS} - T_J$

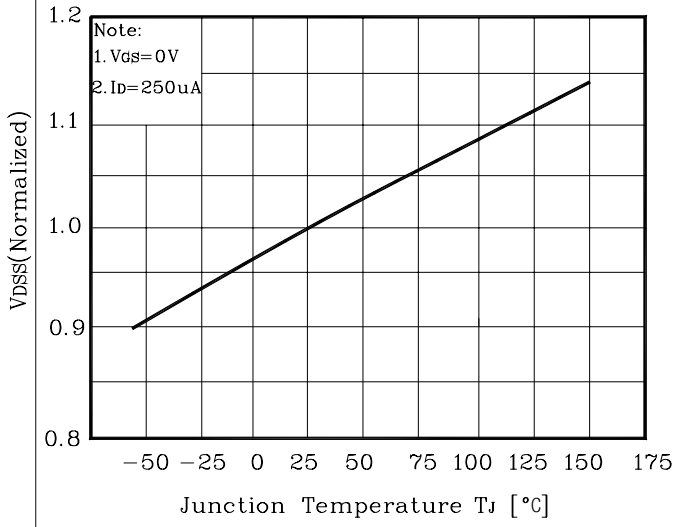


Fig. 8 $R_{DS(on)} - T_J$

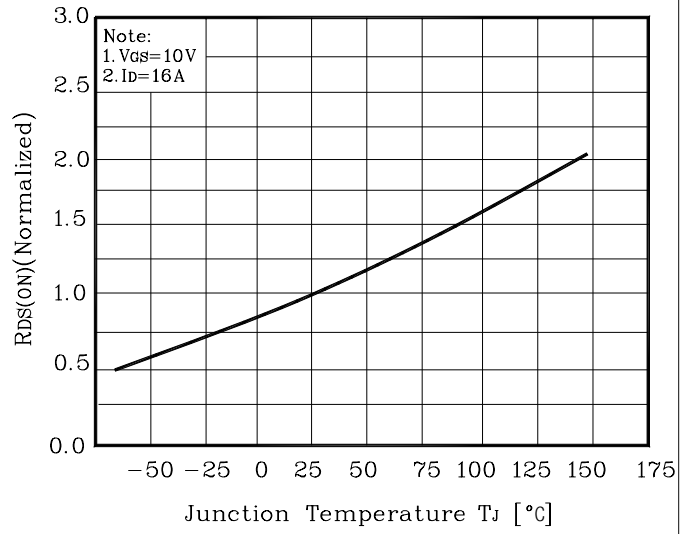


Fig. 9 $I_D - T_C$

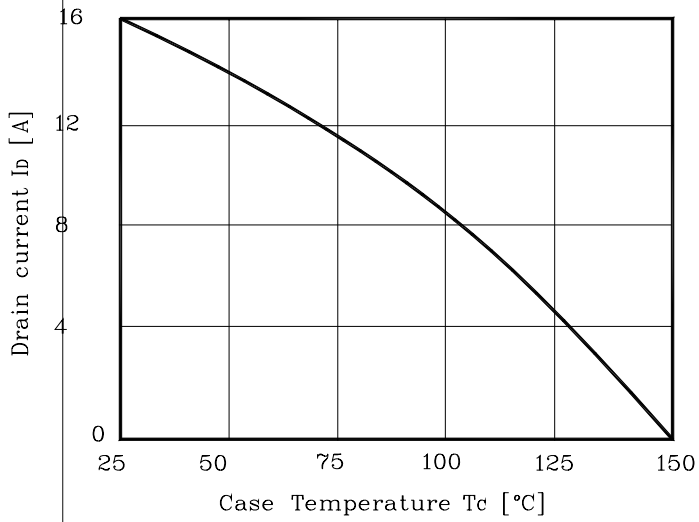


Fig. 10 Safe Operating Area

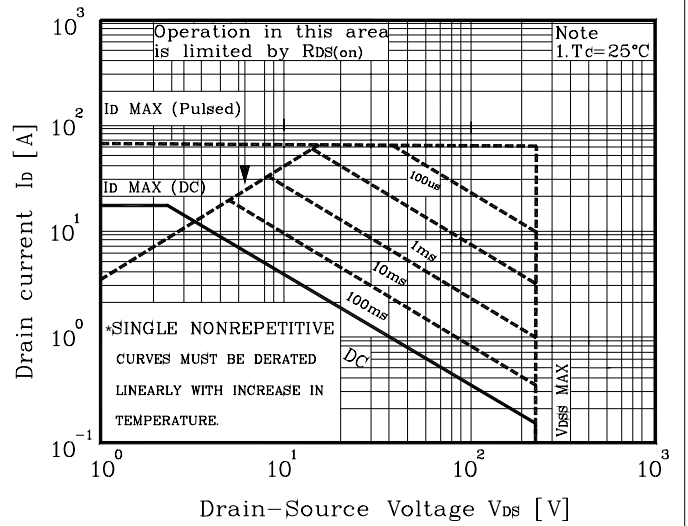


Fig. 11 Gate Charge Test Circuit & Waveform

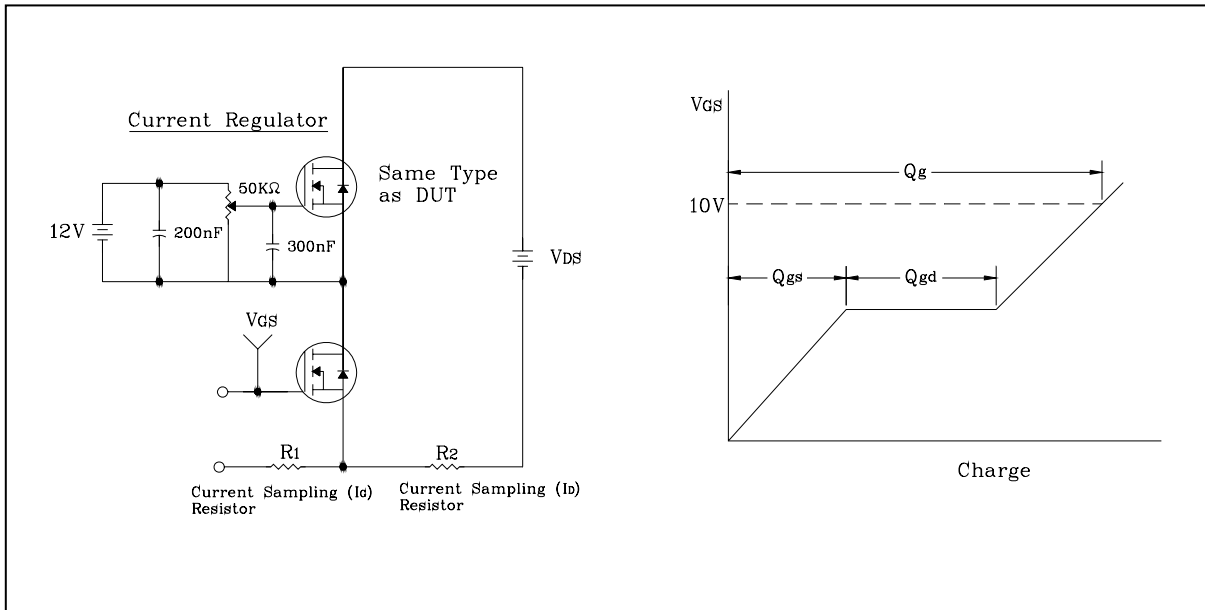


Fig. 12 Resistive Switching Test Circuit & Waveform

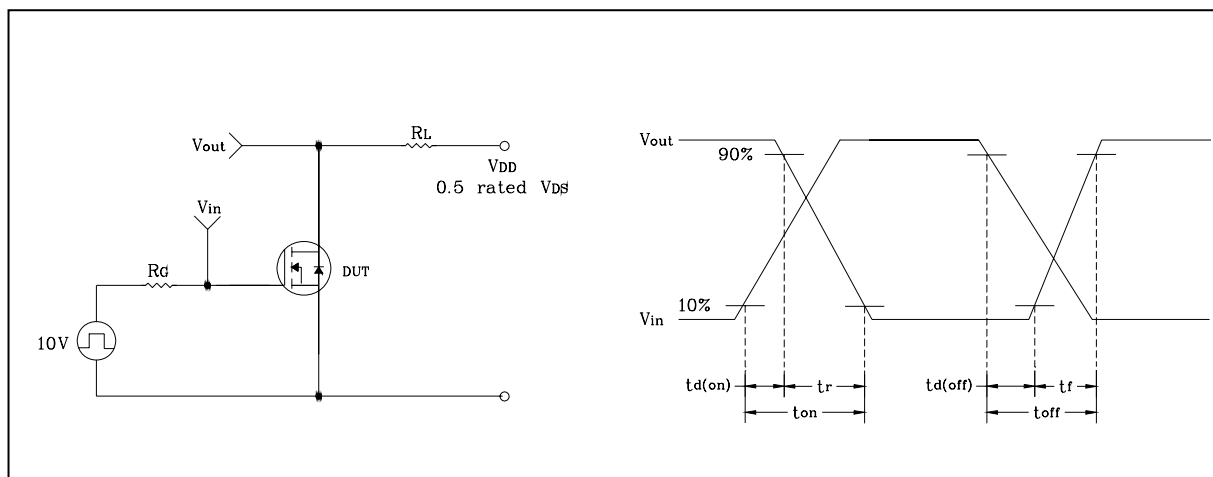


Fig. 13 EAS Test Circuit & Waveform

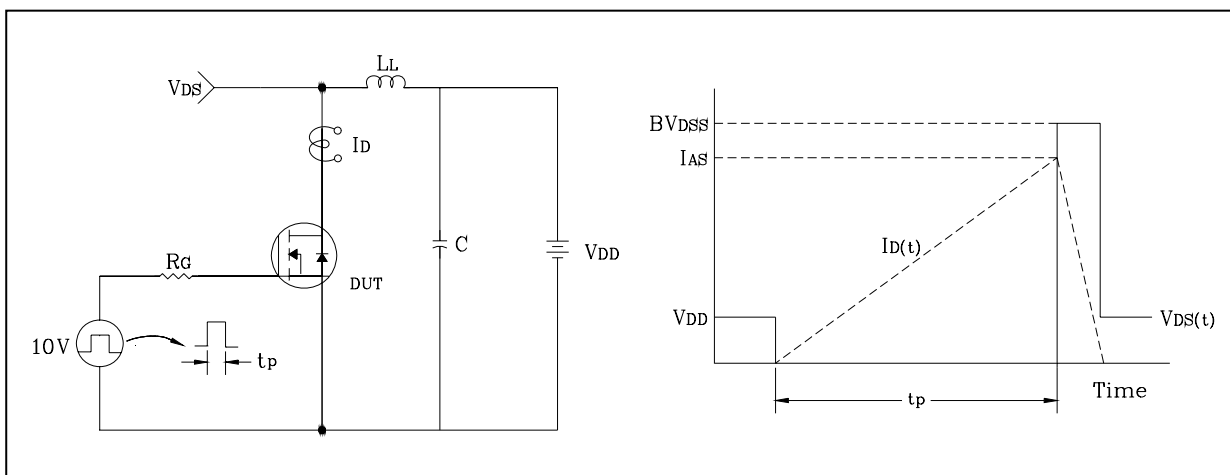


Fig. 14 Diode Reverse Recovery Time Test Circuit & Waveform"

