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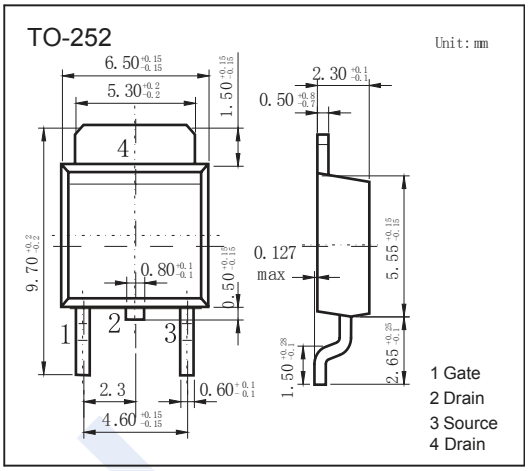
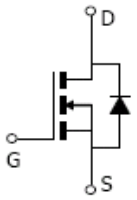


■ Features

- $V_{DS\ (V)}$ = 600V
- I_D = 6 A (V_{GS} = 10V)
- $R_{DS(ON)}$ < 1.7Ω (V_{GS} = 10V)
- Low Gate Charge
- Low Reverse transfer capacitances



■ Absolute Maximum Ratings Ta = 25℃

Parameter		Symbol	Rating	Unit
Drain-Source Voltage		V_{DS}	600	V
Gate-Source Voltage		V_{GS}	±30	
Continuous Drain Current		I_D	6	A
	T_C=100℃		3.6	
Pulsed Drain Current		I_{DM}	24	
Avalanche Current		I_{AR}	2.5	
Avalanche Energy ,Repetitive	(Note.1)	E_{AR}	31	mJ
Single Pulse Avalanche Energy		E_{AS}	270	
Peak Diode Recovery dv/dt	(Note.2)	dv/dt	5	V/ns
Power Dissipation		P_D	85	W
Derating Factor above 25°C			0.68	W/℃
Thermal Resistance.Junction- to-Ambient		R_{thJA}	62.5	℃/W
Thermal Resistance.Junction- to-Lead		R_{thJL}	1.47	
Junction Temperature		T_J	150	℃
MaximumTemperature for Soldering		T_L	300	
Storage Temperature Range		T_{stg}	-55 to 150	

Note.1:L=10mH, I_D=7.4A, Start T_J=25℃

Note.2:I_{SD} =5A,di/dt ≤100A/us,V_{DD}≤BV_{DS}, Start T_J=25℃

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■ Electrical Characteristics Ta = 25℃

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	V_{DSS}	I_D=250μA, V_{GS}=0V	600			V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=600V, V_{GS}=0V			1	uA
		V_{DS}=480V, V_{GS}=0V, Ta =125℃			100	
Gate-Body Leakage Current	I_{GSS}	V_{DS}=0V, V_{GS}=±30V			±100	nA
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS} , I_D=250uA	2		4	V
Static Drain-Source On-Resistance	$R_{DS(ON)}$	V_{GS}=10V, I_D=3A			1.7	Ω
Forward Transconductance	g_{FS}	V_{DS}=15V, I_D=3A		6		S
Input Capacitance	C_{iss}	V_{GS}=0V, V_{DS}=25V, f=1MHz		815		pF
Output Capacitance	C_{oss}			74		
Reverse Transfer Capacitance	C_{rss}			2.7		
Total Gate Charge	Q_g	V_{GS}=10V, V_{DS}=480V, I_D=6A		17		nC
Gate Source Charge	Q_{gs}			3.6		
Gate Drain Charge	Q_{gd}			6		
Turn-On DelayTime	$t_{d(on)}$	V_{DS}=300V,I_D=6A,R_{GEN}=10Ω		16		ns
Turn-On Rise Time	t_r			14		
Turn-Off DelayTime	$t_{d(off)}$			37		
Turn-Off Fall Time	t_f			9		
Body Diode Reverse Recovery Time	t_{rr}	I_F= 6A, dI/dt= 100A/us ,T_J=25℃		280		
Body Diode Reverse Recovery Charge	Q_{rr}			1400		nC
Maximum Body-Diode Continuous Current	I_S				5	A
Maximum Pulsed Current (Body Diode)	I_{SM}				20	
Diode Forward Voltage	V_{SD}	I_S=6A,V_{GS}=0V			1.5	V

Note.Pulse width tp≤380μs,δ≤2%

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■ Typical Characterisitics

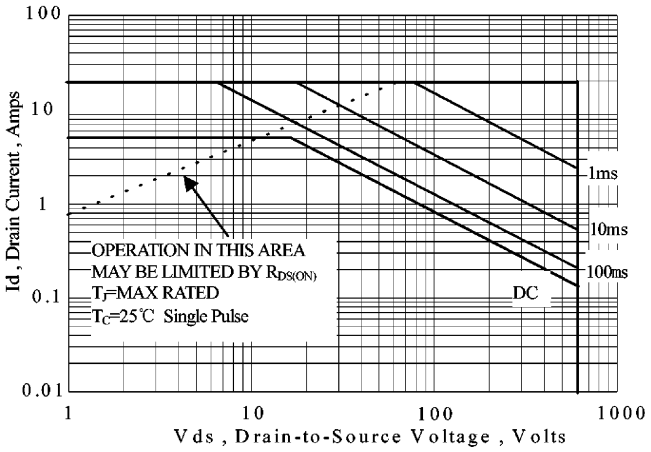

Figure 1 Maximun Forward Bias Safe Operating Area

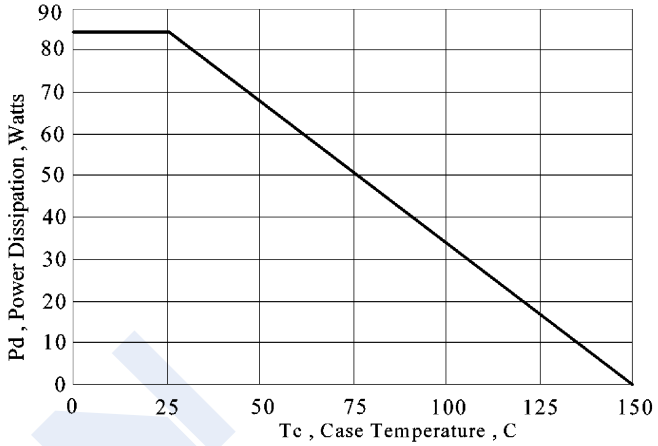

Figure 2 Maximun Power Dissipation vs Case Temperature

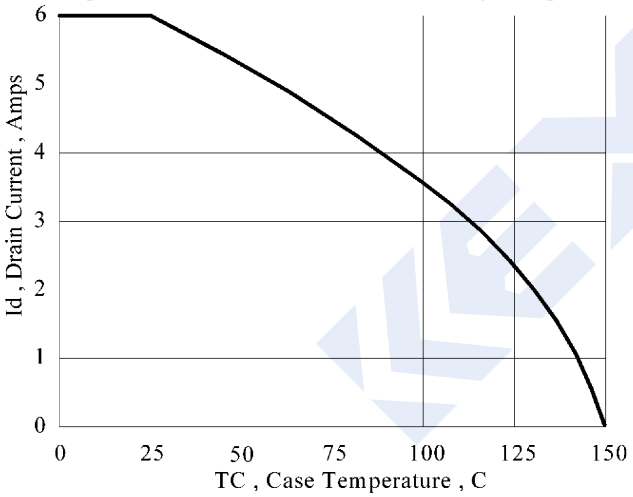

Figure 3 Maximum Continuous Drain Current vs Case Temperature

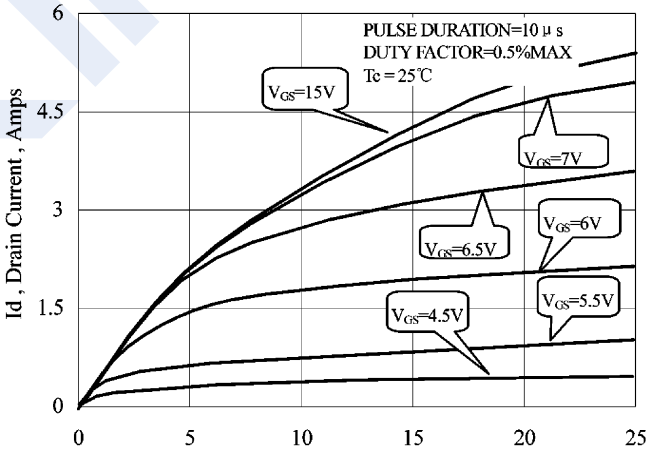

Figure 4 Typical Output Characteristics

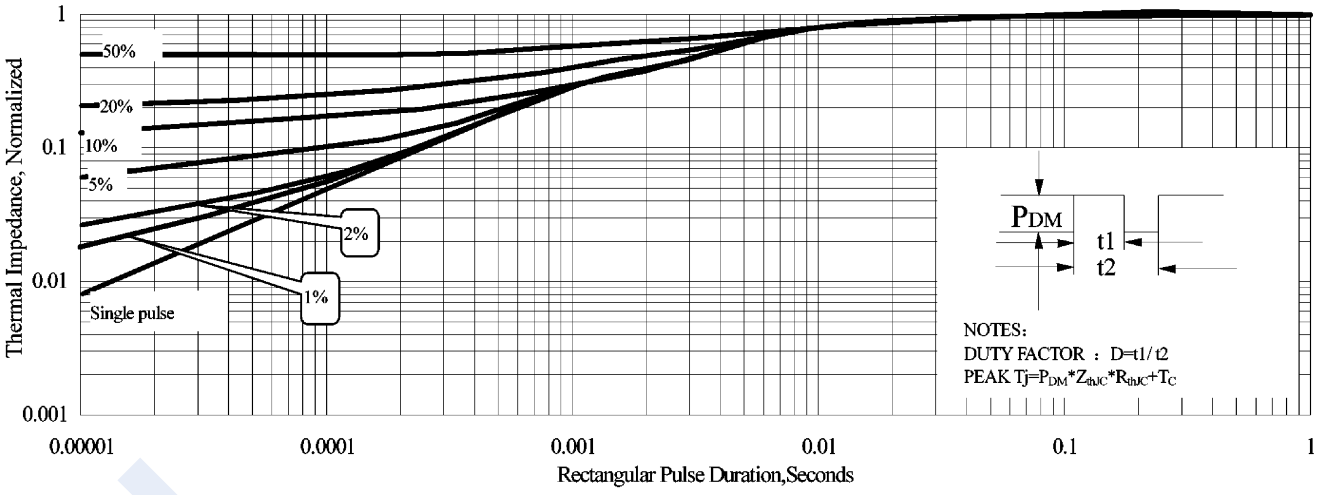

Figure 5 Maximum Effective Thermal Impendance , Junction to Case

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■ Typical Characterisitics

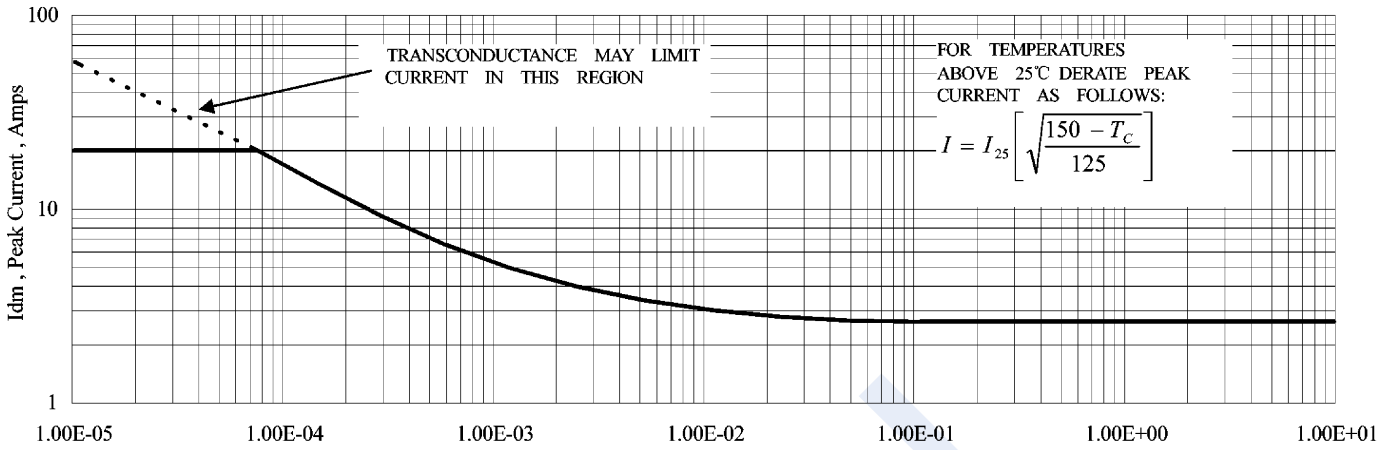

Figure 6 Maximun Peak Current Capability

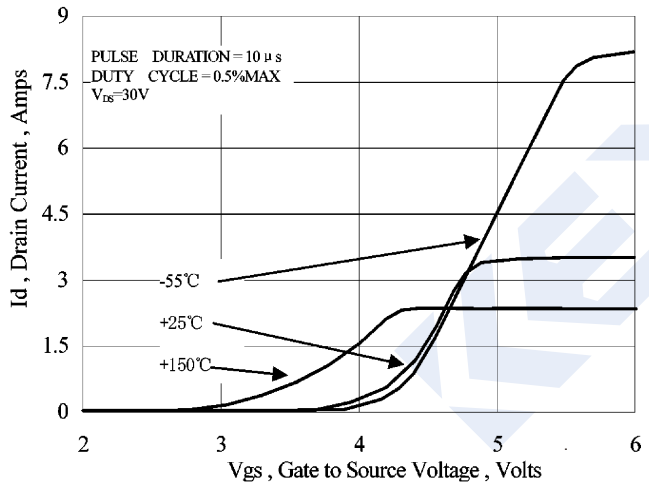

Figure 7 Typical Transfer Characteristics

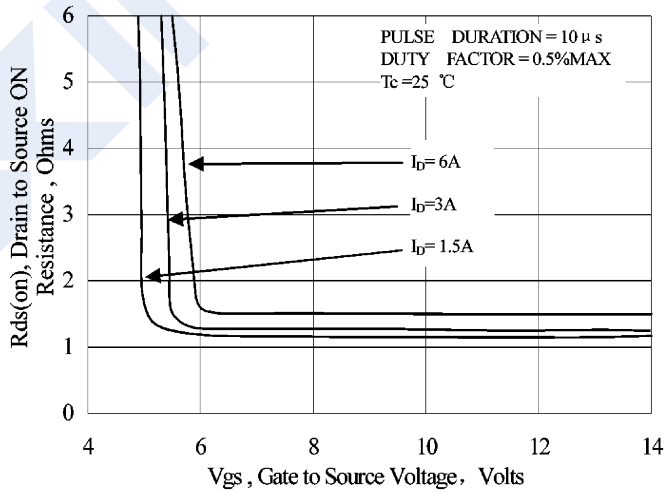

Figure 8 Typical Drain to Source ON Resistance vs Gate Voltage and Drain Current

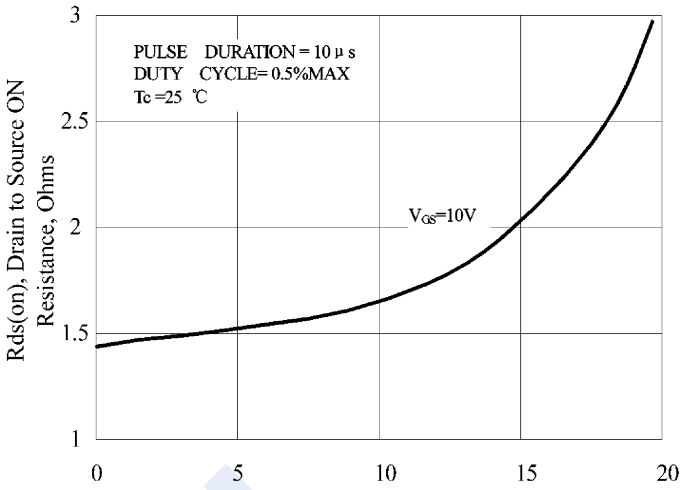

Figure 9 Typical Drain to Source ON Resistance vs Drain Current

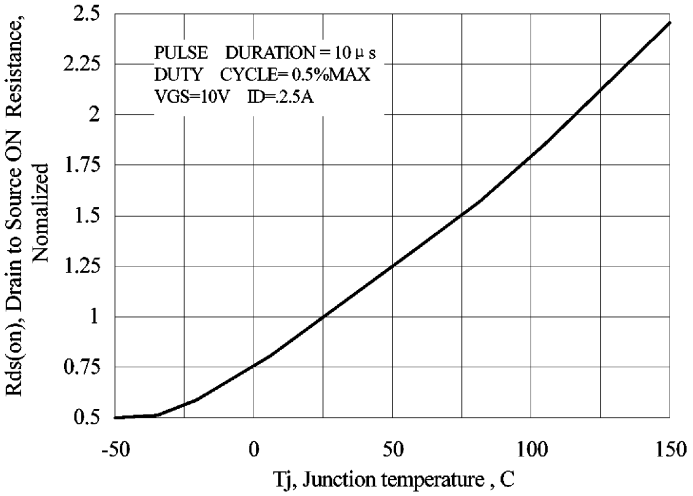

Figure 10 Typical Drian to Source on Resistance vs Junction Temperature

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■ Typical Characterisitics

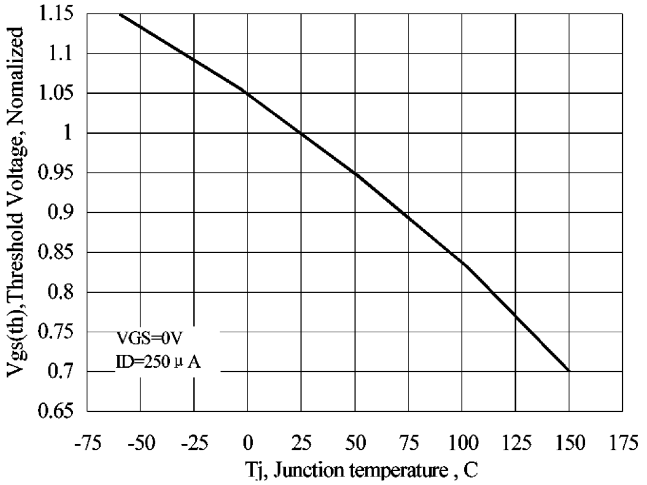

Figure 11 Typical Theshold Voltage vs Junction Temperature

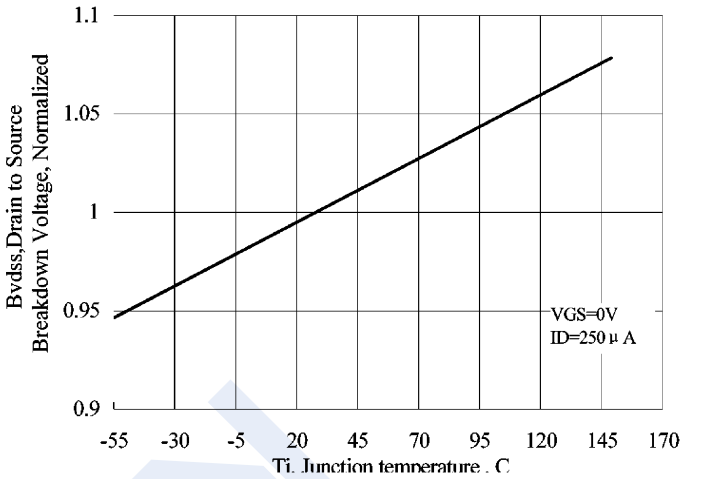

Figure 12 Typical Breakdown Voltage vs Junction Temperature

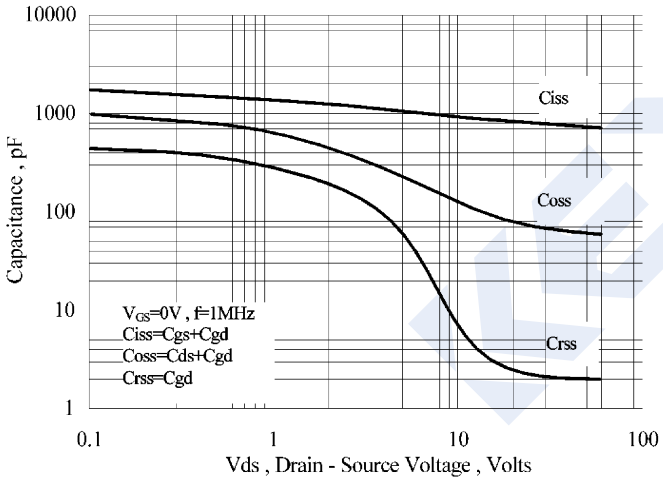

Figure 13 Typical Capacitance vs Drain to Source Voltage

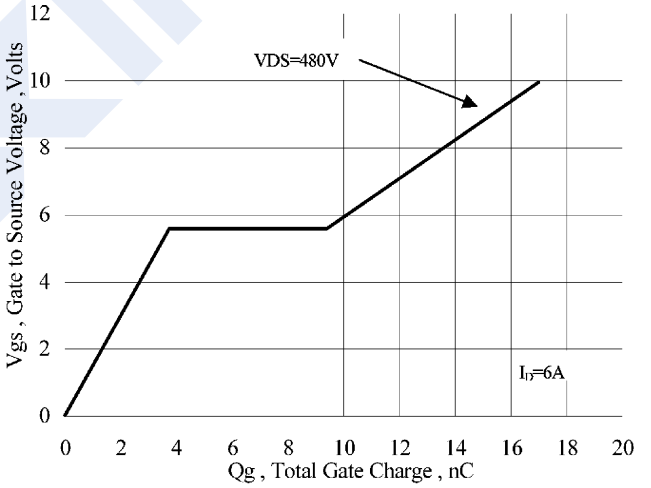

Figure 14 Typical Gate Charge vs Gate to Source Voltage

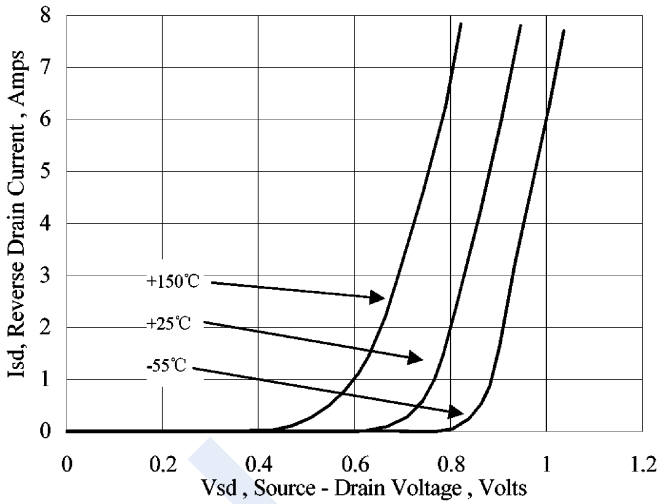

Figure 15 Typical Body Diode Transfer Characteristics

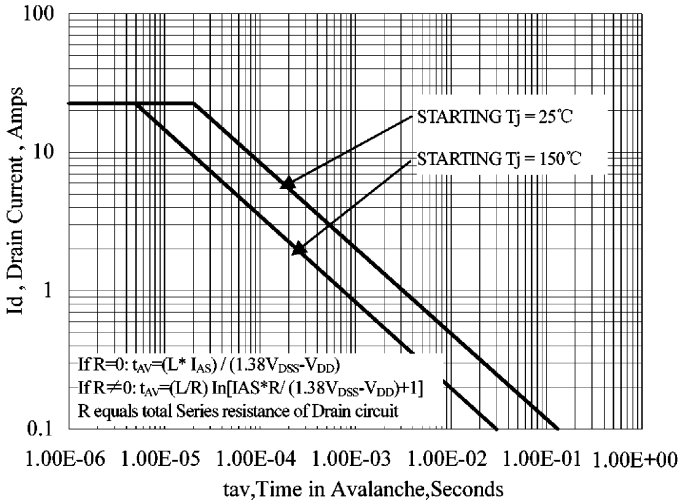

Figure 16 Unclamped Inductive Switching Capability