Ã a ? d / Absolute Maximum Ratings(Ta=25 ;)

@ ƒ Parameter		… Z Symbol	ƒ › Rating	% y Unit
Drain-Source Voltage		V_{DS}	-40	V
Drain Current - Continuous		I_D(T_c=25)	-41	A
Drain Current – Pulsed		I_{DM}	-72	A
Gate-Source Voltage		V_{GS}	f 20	V
Power Dissipation		P_D(T_c=25)	30	W
Single Pulse Avalanche Energy(L=0.5mH)		E_{AS}	317.5	mJ
Avalanche Current(L=0.5mH)		I_{AS}	-31.5	A
Junction and Storage Temperature Range		T_j, T_{stg}	-55 to 150	-
Thermal resistance, junction - ambient	t 0 10s	R ©JA	22	/ W
	Steady-State		55	
Thermal resistance, junction - case	Steady-State	R ©JC	4.2	

Ô4ì × ? d / Electrical Characteristics(Ta=25 ;)

@ ƒ Parameter	… Z Symbol	y ¡ Ú ^ Test Conditions	Â 4 › Min	Á º › Typ	Â Ý › Max	% y Unit
Drain-Source Breakdown Voltage	BV_{DSS}	I_D=-250 A V_{GS}=0V	-40	-48		V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=-40V V_{GS}=0V			-1	uA
Gate-Body leakage current	I_{GSS}	V_{DS}=0V, V_{GS}= ±20V			f 100	nA
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=VGS I_D=-250 A	-1	-1.7	-2.5	V
Static Drain-Source On-Resistance	$R_{DS(ON)}$	V_{GS}=-10V, I_D=-20A		11.6	13.5	m S
		V_{GS}=-4.5V, I_D=-10A		15	25	
Diode Forward Voltage	V_{SD}	I_S=-1A, V_{GS}=0V			-1.2	V
Input Capacitance	C_{iss}	V_{DS}=-25V V_{GS}=0V f=1.0MHz		4760		pF
Output Capacitance	C_{oss}			2800		
Reverse Transfer Capacitance	C_{rss}			1960		
Gate resistance	R_g	V_{GS}=0V V_{DS}=0V f=1MHz		17.5		
Total Gate Charge	$Q_{g(10V)}$	V_{GS}=-10V, V_{DS}=-20V, I_D=-20A		34		nC
Total Gate Charge	$Q_{g(4.5V)}$			17.5		
Gate Source Charge	Q_{gs}			5.8		
Gate Drain Charge	Q_{gd}			9		

Ô4ì × ? d / Electrical Characteristics(Ta=25 ;)

@ ƒ Parameter	… Z Symbol	y ¡ Ú ^ Test Conditions	Â 4 › Min	Á º › Typ	Â Ý › Max	% y Unit
Turn-On Delay Time	$t_{d(on)}$	V_{GS}=-10V V_{DS}=-20V R_L=0.75 ¡ R_{GEN}=3 ¡		11		ns
Turn-On Rise Time	t_r			7.8		
Turn-Off Delay Time	$t_{d(off)}$			44		
Turn-Off Fall Time	t_f			18		

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Ô ? d • Ž ¢ Electrical Characteristic Curve

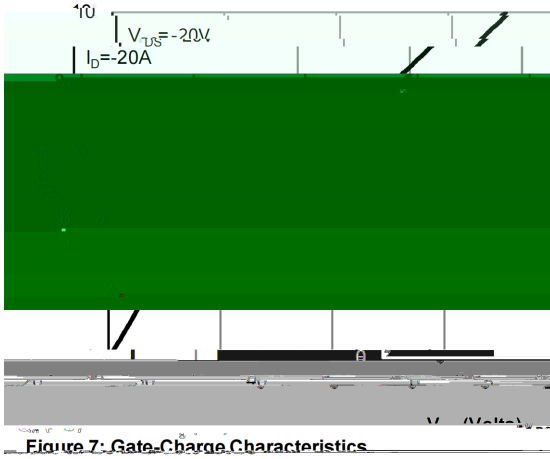


Figure 7: Gate-Charge Characteristics

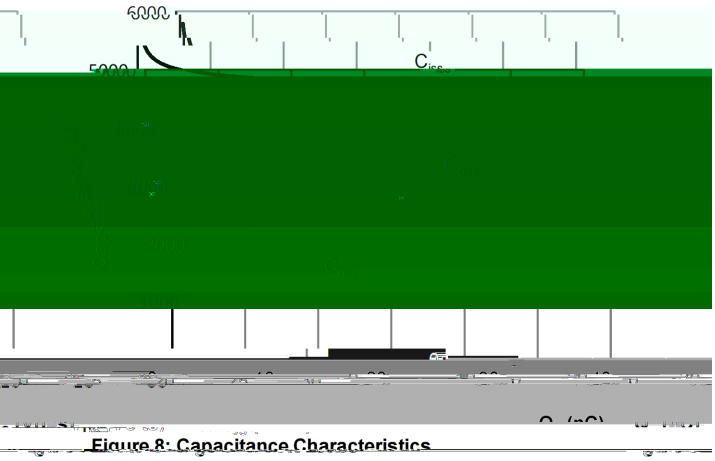
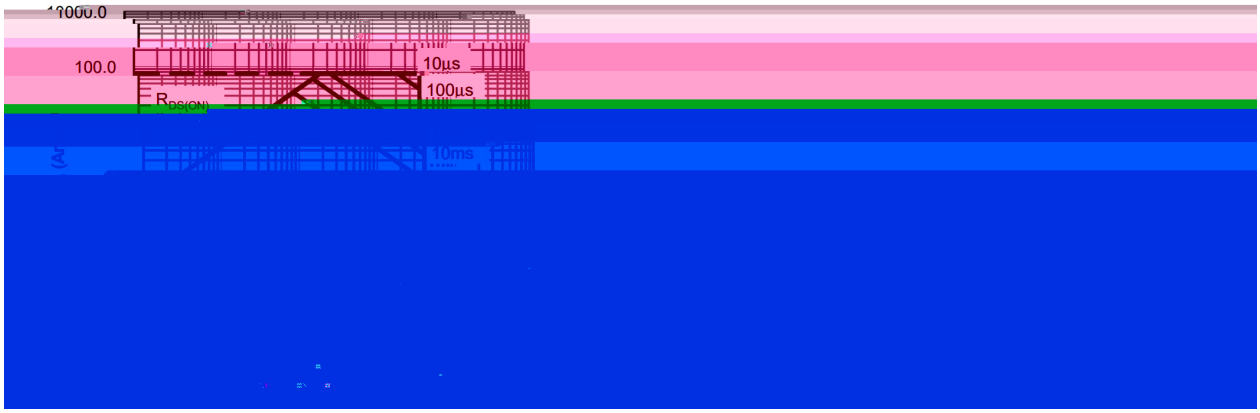
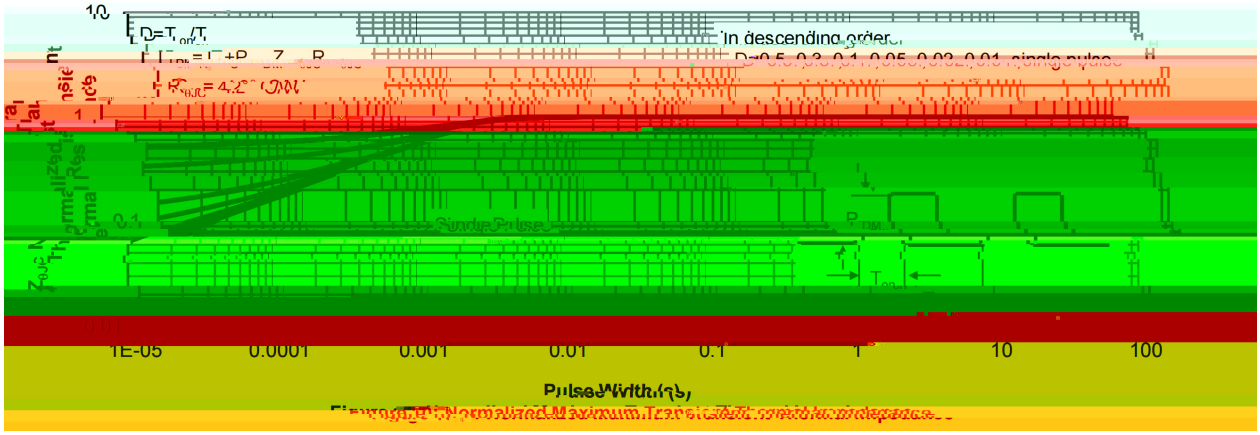


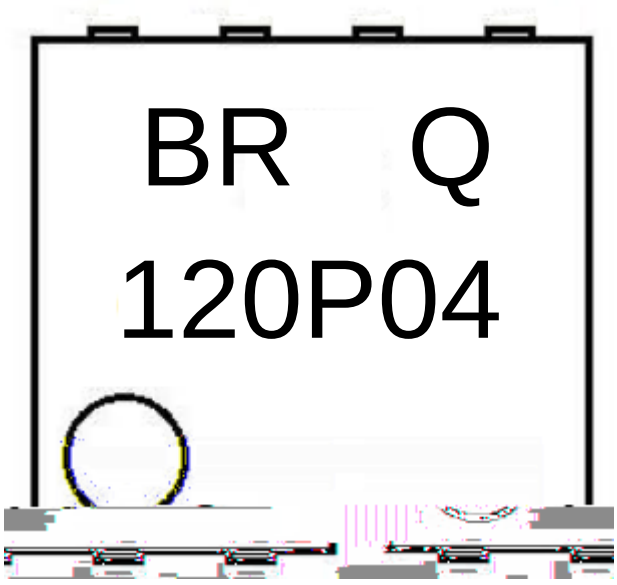
Figure 8: Capacitance Characteristics





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, M y ƒ / Marking Instructions



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BR y	¸ [W A
Q y	V ñ —)í D } ö œ
120P04 y	º Z W A
y	ÿ D Z W A k š ÿ D Z J

Note:

BR:	Company Code
Q:	Automobile halogen-free product Code
120P04:	Product Type Code
****:	Lot No. Code, code change with Lot No

š WD t … • Ž ¢ (x /) / :K S V K X G Z [X K 6 X U L O R K L U X /8 8 K L R U] 9 U R J K X O T M 6