

All ratings @ $T_j = 25^\circ\text{C}$ unless otherwise specified

Electrical Characteristics

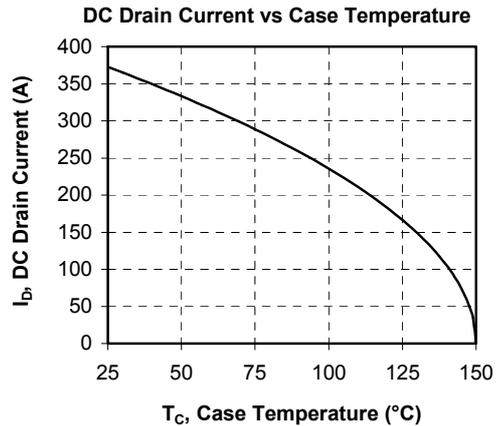
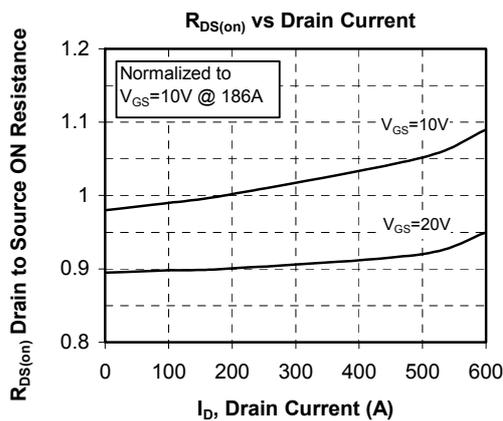
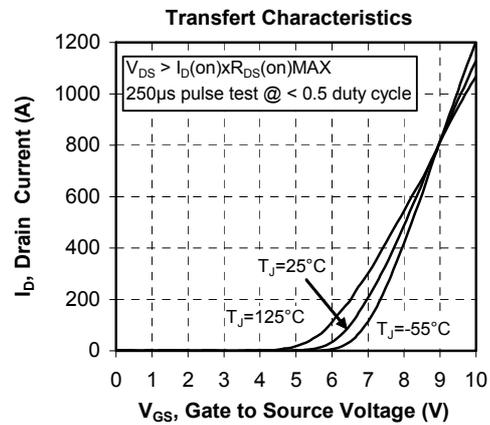
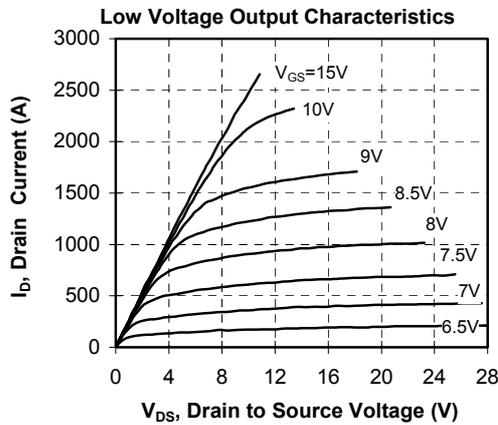
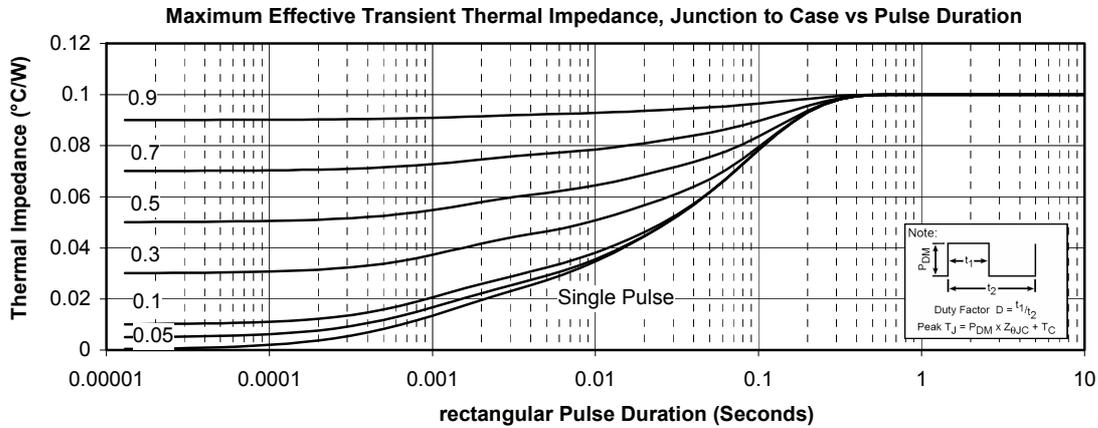
Symbol	Characteristic	Test Conditions	Min	Typ	Max	Unit
I _{DSS}	Zero Gate Voltage Drain Current	V _{GS} = 0V, V _{DS} = 200V			500	μA
		T _j = 25°C				
		V _{GS} = 0V, V _{DS} = 160V			2000	
R _{DS(on)}	Drain – Source on Resistance	V _{GS} = 10V, I _D = 186A		4	5	mΩ
V _{GS(th)}	Gate Threshold Voltage	V _{GS} = V _{DS} , I _D = 10mA	3		5	V
I _{GSS}	Gate – Source Leakage Current	V _{GS} = ±30 V, V _{DS} = 0V			±200	nA

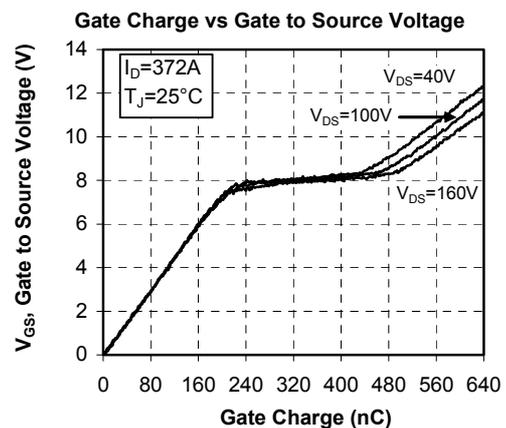
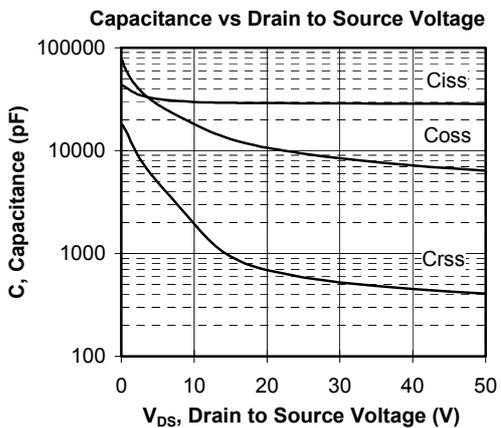
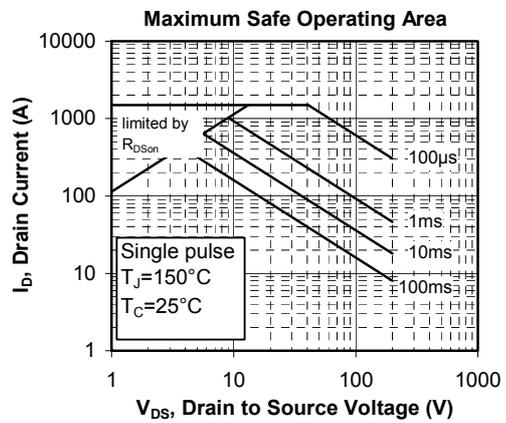
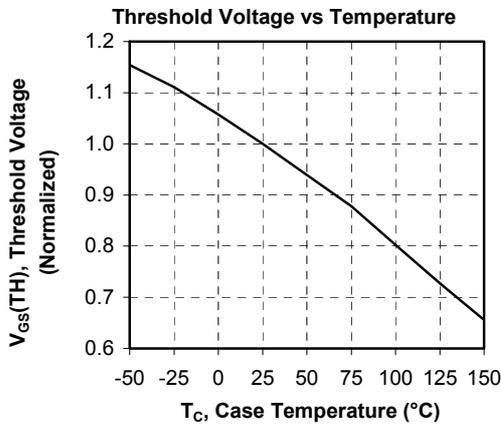
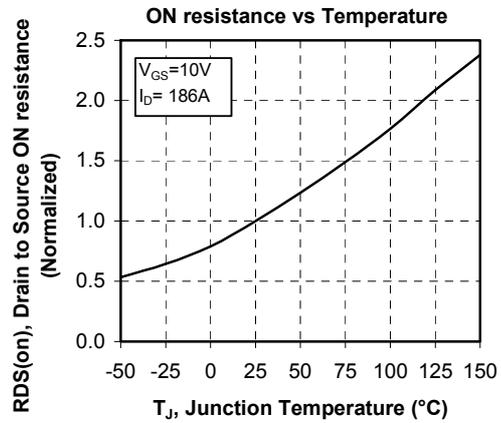
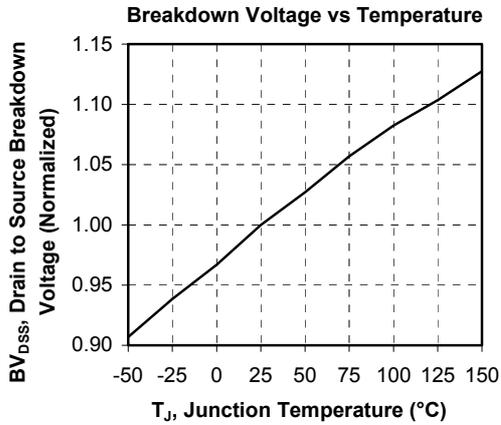
Dynamic Characteristics

Symbol	Characteristic	Test Conditions	Min	Typ	Max	Unit
C _{iss}	Input Capacitance	V _{GS} = 0V		28.9		nF
C _{oss}	Output Capacitance	V _{DS} = 25V		9.32		
C _{rss}	Reverse Transfer Capacitance	f = 1MHz		0.58		
Q _g	Total gate Charge	V _{GS} = 10V		560		nC
Q _{gs}	Gate – Source Charge	V _{Bus} = 100V		212		
Q _{gd}	Gate – Drain Charge	I _D = 372A		268		
T _{d(on)}	Turn-on Delay Time	Inductive switching @ 125°C V _{GS} = 15V V _{Bus} = 133V I _D = 372A R _G = 1.2Ω		32		ns
T _r	Rise Time			64		
T _{d(off)}	Turn-off Delay Time			88		
T _f	Fall Time			116		
E _{on}	Turn-on Switching Energy	Inductive switching @ 25°C V _{GS} = 15V, V _{Bus} = 133V I _D = 372A, R _G = 1.2Ω		3396		μJ
E _{off}	Turn-off Switching Energy			3716		
E _{on}	Turn-on Switching Energy	Inductive switching @ 125°C V _{GS} = 15V, V _{Bus} = 133V I _D = 372A, R _G = 1.2Ω		3744		μJ
E _{off}	Turn-off Switching Energy			3944		

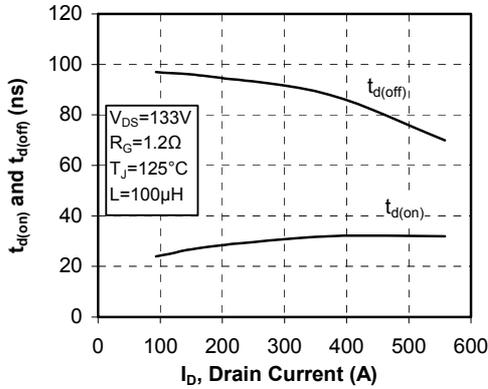
Chopper diode ratings and characteristics

Symbol	Characteristic	Test Conditions	Min	Typ	Max	Unit
V _{RRM}	Maximum Peak Repetitive Reverse Voltage		200			V
I _{RM}	Maximum Reverse Leakage Current	V _R = 200V	T _j = 25°C		250	μA
			T _j = 125°C		750	
I _F	DC Forward Current	T _c = 80°C		300		A
V _F	Diode Forward Voltage	I _F = 300A		1	1.1	V
		I _F = 600A		1.4		
		I _F = 300A	T _j = 125°C	0.9		
t _{rr}	Reverse Recovery Time	I _F = 300A V _R = 133V	T _j = 25°C	60		ns
			T _j = 125°C	110		
Q _{rr}	Reverse Recovery Charge	di/dt = 600A/μs	T _j = 25°C	600		nC
			T _j = 125°C	2520		

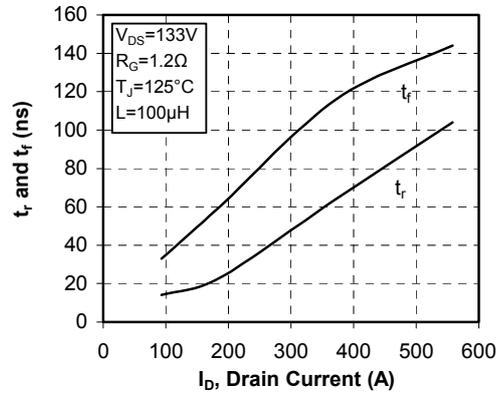
Typical Performance Curve




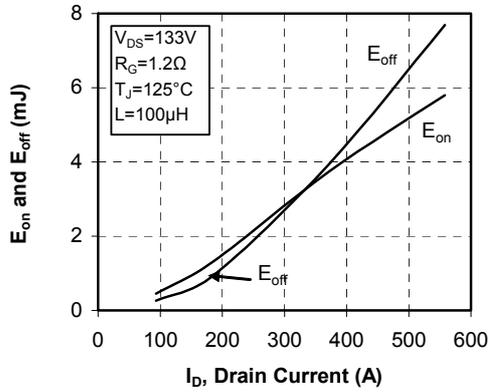
Delay Times vs Current



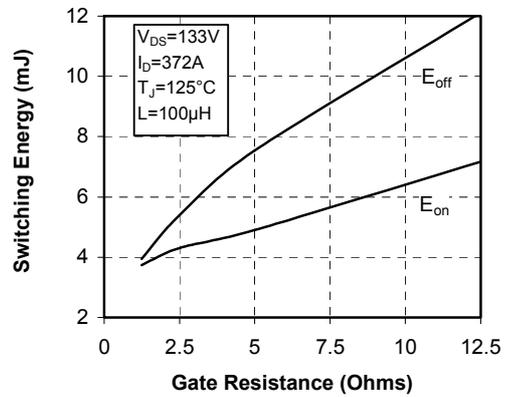
Rise and Fall times vs Current



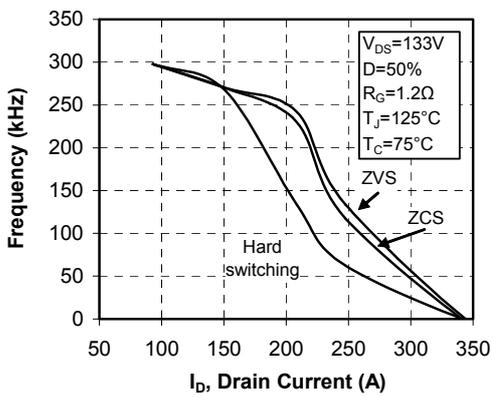
Switching Energy vs Current



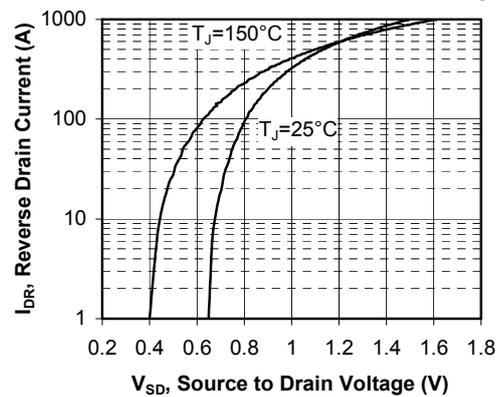
Switching Energy vs Gate Resistance



Operating Frequency vs Drain Current



Source to Drain Diode Forward Voltage



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