

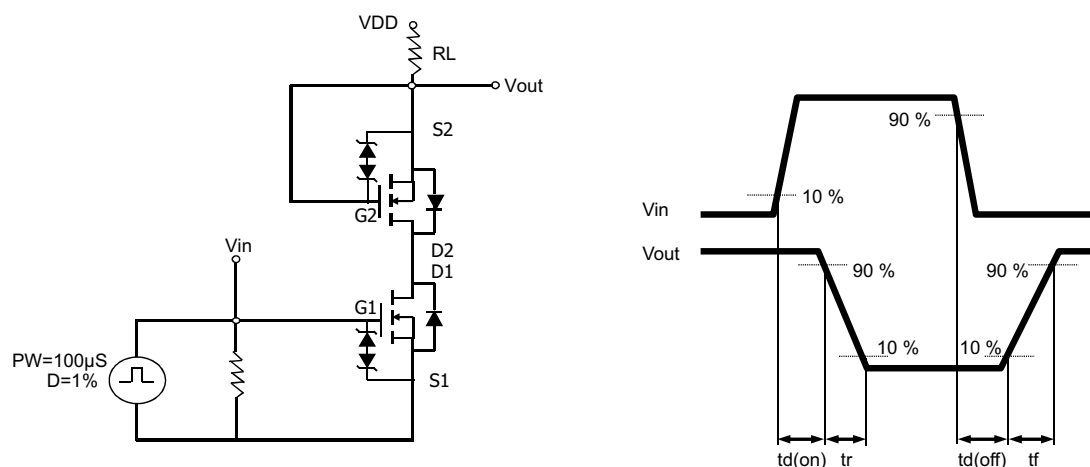
Halogen Free

Comchip Technology CO., LTD.

Electrical Characteristics (at TA=25°C unless otherwise noted)

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Static parameters						
Source to source breakdown voltage	BV _{SSS}	I _S = 1mA, V _{GS} = 0V	20			V
Zero-gate voltage source current	I _{SSS}	V _{SS} = 16V, V _{GS} = 0V			1	μA
Gate to source leakage current	I _{GSS}	V _{SS} = 0V, V _{GS} = ±10V			±10	μA
Gate to source threshold voltage	V _{GS(th)}	V _{SS} = V _{GS} , I _S = 250uA	0.5	0.8	1.3	V
Source to source on-state resistance	R _{SS(on)}	V _{GS} = 4.5V, I _S = 2A	15.8	22.6	31	mΩ
		V _{GS} = 4.1V, I _S = 2A	16.0	22.9	33	
		V _{GS} = 4.0V, I _S = 2A	16.2	23.1	34	
		V _{GS} = 3.8V, I _S = 2A	16.3	23.3	35	
		V _{GS} = 3.7V, I _S = 2A	16.5	23.6	36	
		V _{GS} = 3.1V, I _S = 2A	17.5	25.0	39	
		V _{GS} = 2.5V, I _S = 2A	19.4	27.7	48	
Input capacitance	C _{iss}	V _{SS} = 10V, V _{GS} = 0V, f = 1kHz		644		pF
Output capacitance	C _{oss}			150		
Reverse transfer capacitance	C _{rss}			109		
Turn-on delay time (Note 3)	t _{d(on)}	V _{DD} = 9V, R _L = 2.8Ω, V _{GS} = 4.5V		113		nS
Turn-on rise time (Note 3)	t _r			246		
Turn-off delay time (Note 3)	t _{d(off)}			1160		
Turn-off fall time (Note 3)	t _f			516		
Total gate charge (Note 3)	Q _g	V _{SS} = 10V, I _S = 3.4A, V _{GS} = 6V		8.6		nC
Gate1-source1 charge (Note 3)	Q _{g1s1}			0.9		
Gate1-source2 charge (Note 3)	Q _{g1s2}			2.5		
Diode forward voltage	V _{F(S-S)}	V _{GS} = 0V, I _S = 2A			1.0	V

Notes: 3. When FET1 is measured, G2 and S2 are short-circuited.



REV:0

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Rating and Characteristic Curves (CMSBN4502-HF)

Fig.1 - I_s — V_{ss}

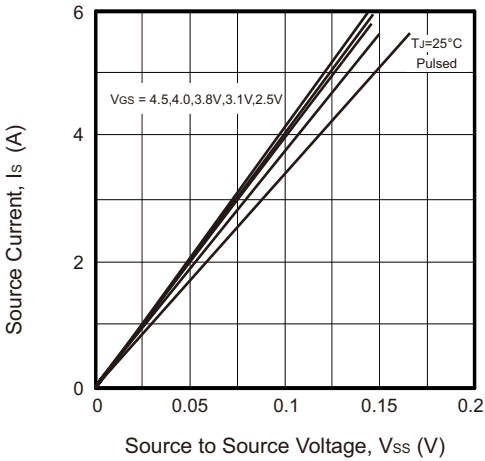


Fig.2 - I_s — V_{GS}

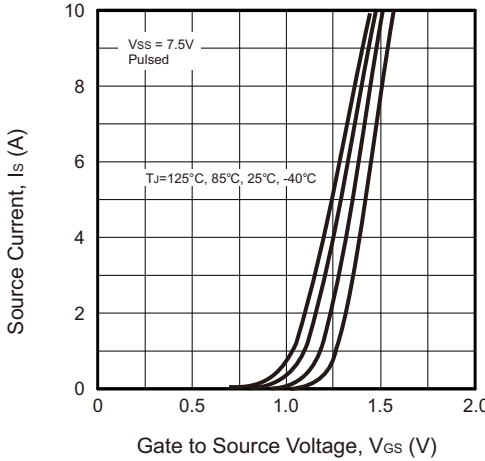


Fig.3 - $R_{SS(on)}$ — I_s

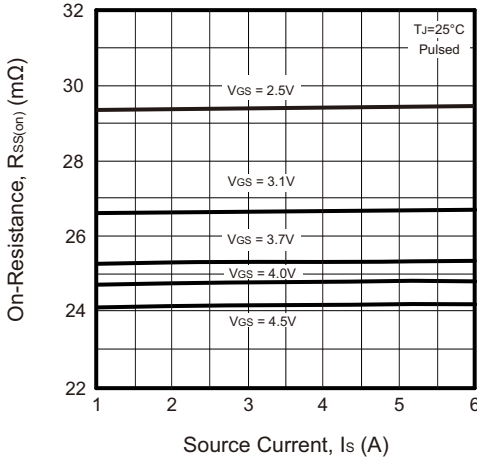


Fig.4 - $R_{SS(on)}$ — V_{GS}

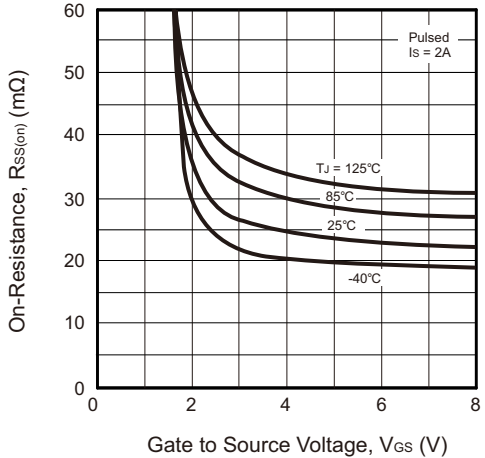


Fig.5 - I_F — V_F

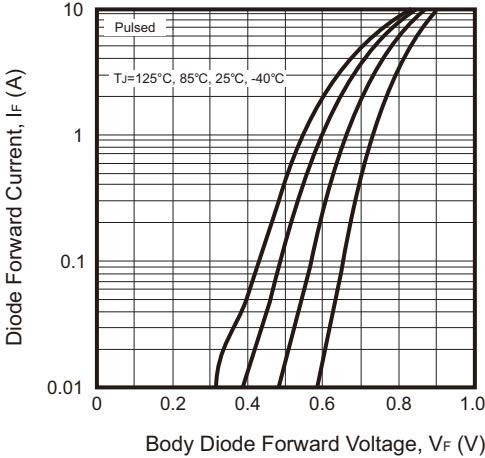
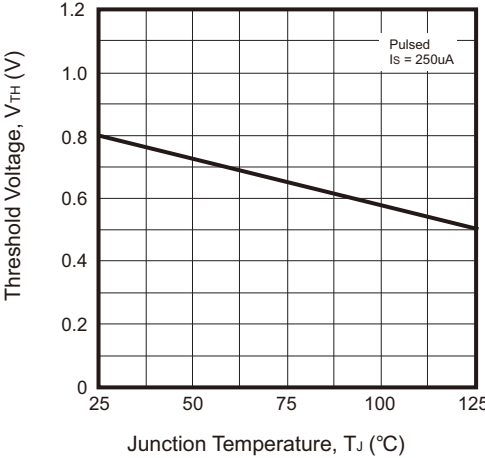


Fig.8 - Threshold Voltage



Rating and Characteristic Curves (CMSBN4502-HF)

Fig.7 - Capacitance

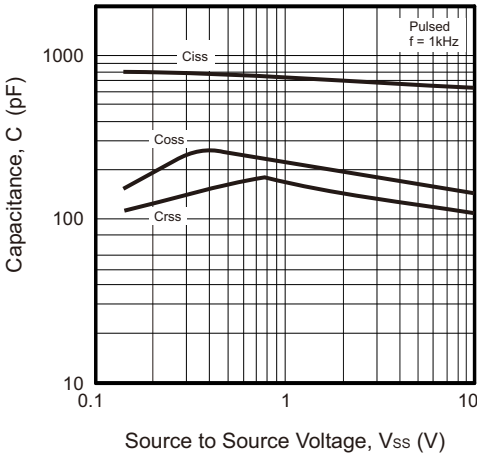


Fig.8 - Gate Charge

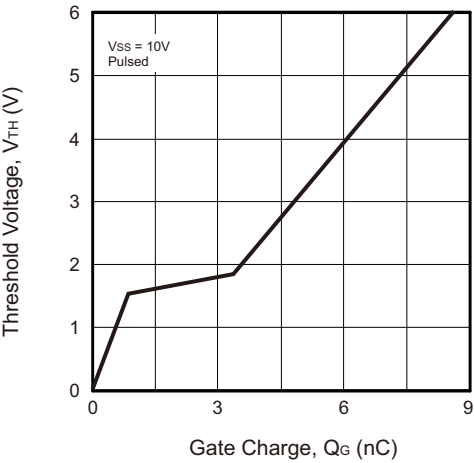


Fig.9 - Normalized Transient Thermal Impedance

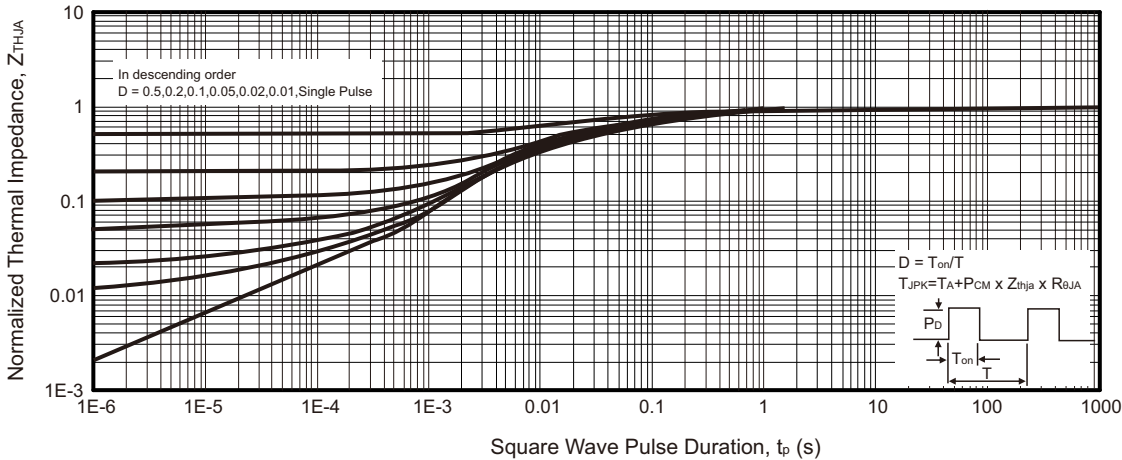


Fig.10 - Maximum Forward Biased Safe Operating Area

