PT4606

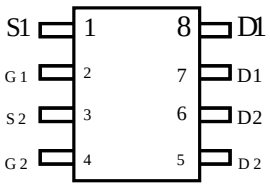
PUOLOP 迪浦

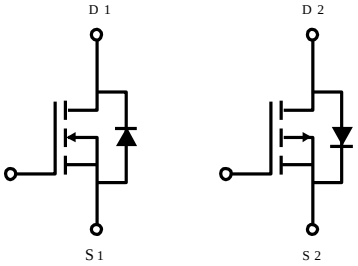
Complementary High Density Trench MOSFET

PRODUCT SUMMARY (N-Channel)		
VDSS	ID	RDS(on) (mΩ) Max
30V	6.5A	28 @ VGS= 10V
	5A	41 @ VGS= 4.5V

PRODUCT SUMMARY (P-Channel)		
VDSS	ID	RDS(on) (mΩ) Max
-30V	-6A	37 @ VGS= -10V
	-5A	57 @ VGS= -4.5V

SOP-8





ABSOLUTE MAXIMUM RATINGS (T_A = 25 °C unless otherwise noted)

Parameter		Symbol	N-Channel	P-Channel	Unit
Drain-Source Voltage		VDS	30	-30	V
Gate-Source Voltage		VGS	± 20	± 20	V
Drain Current-Continuous[a]@ TA= 25 °C		ID	6.5	-6	A
-Pulse[b]		IDM	28	-26	A
Drain-Source Diode Forward Current[a]		IS	2.5	-2.3	A
Maximum Power Dissipation[a]	TA=25ºC	PD	2.0		W
	TA=75ºC		1.2		
Operating Junction and Storage Temperature Range		TJ,TSTG	- 55 to 150		°C

THERMAL CHARACTERISTICS

Thermal Resistance,Junction-to-Ambient[a]	RthJA	62.5	°C/W

Note：
a. Surface Mounted on FR4 Board , t ≤ 10sec .
b. Pulse width limited by maximum junction temperature.

N-Channel ELECTRICAL CHARACTERISTICS (TA= 25 °C unless otherwise noted)

Parameter	Symbol	Condition	Min	Typ[c]	Max	Unit
OFF CHARACTERISTICS						
Drain-Source Breakdown Voltage	BV_{DSS}	V_{GS} = 0V , I_D = 250uA	30			V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS} = 24V , V_{GS} = 0V			1	uA
Gate-Body Leakage	I_{GSS}	V_{GS} = 20V , V_{DS} = 0V			100	nA
ON CHARACTERISTICS[b]						
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS} = V_{GS} , I_D = 250uA	1	1.4	3	V
Drain-Source On-State Resistance	$R_{DS(on)}$	V_{GS} = 10V , I_D = 6.5A		23	28	mΩ
		V_{GS} = 4.5V , I_D = 5A		34	41	mΩ
Forward Transconductance	g_{fs}	V_{DS} = 5V , I_D = 5A		5.1		S
DRAIN-SOURCE DIODE CHARACTERISTICS[b]						
Diode Forward Voltage	V_{SD}	V_{GS} = 0V , I_S = 1.0A			1.0	V
DYNAMIC CHARACTERISTICS[c]						
Input Capacitance	C_{ISS}	V_{DS} = 15V , V_{GS} = 0V f = 1.0MHz		388		pF
Output Capacitance	C_{OSS}			62		pF
Reverse Transfer Capacitance	C_{RSS}			58		pF
SWITCHING CHARACTERISTICS[c]						
Turn-On Delay Time	$t_{D(ON)}$	V_{DD} = 15V , I_D = 1A V_{GEN} = 10V R_L = 15 Ω R_{GEN} = 6 Ω		7.0		ns
Rise Time	t_r			10		ns
Turn-Off Delay Time	$t_{D(OFF)}$			16		ns
Fall Time	t_f			7.0		ns
Total Gate Charge	Q_g	V_{DS} = 10V I_D = 1A V_{GS} = 10V		7.0		nC
Gate-Source Charge	Q_{gs}			1.6		nC
Gate-Drain Charge	Q_{gd}			1.0		nC

Note：
b. Pulse Test：Pulse width ≤ 300us , Duty Cycle ≤ 2% .
c. Guaranteed by design , not subject to production testing .

P -Channel ELECTRICAL CHARACTERISTICS TA= 25 °C unless otherwise noted

Parameter	Symbol	Condition	Min	Typ[c]	Max	Unit
OFF CHARACTERISTICS						
Drain-Source Breakdown Voltage	BV_{DSS}	V_{GS} = 0V , I_D = -250uA	-30			V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS} = -24V , V_{GS} = 0V			-1	uA
Gate-Body Leakage	I_{GSS}	V_{GS} = -20V , V_{DS} = 0V			-100	nA
ON CHARACTERISTICS[b]						
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS} = V_{GS} , I_D = -250uA	-1	-1.5	-3	V
Drain-Source On-State Resistance	$R_{DS(on)}$	V_{GS} = -10V , I_D = -6A		27	37	mΩ
		V_{GS} = -4.5V , I_D = -5A		39	57	mΩ
Forward Transconductance	g_{fs}	V_{DS} = -10V , I_D = -6A		12.2		S
DRAIN-SOURCE DIODE CHARACTERISTICS[b]						
Diode Forward Voltage	V_{SD}	V_{GS} = 0V , I_S = -2.3A			-1.2	V
DYNAMIC CHARACTERISTICS[c]						
Input Capacitance	C_{ISS}	V_{DS} = -15V , V_{GS} = 0V f = 1.0MHz		926		pF
Output Capacitance	C_{OSS}			119		pF
Reverse Transfer Capacitance	C_{RSS}			97		pF
SWITCHING CHARACTERISTICS[c]						
Turn-On Delay Time	$t_{D(ON)}$	V_{DD} = -15V , I_D = -3A V_{GEN} = -10V R_L = 5 Ω R_{GEN} = 6 Ω		9.2		ns
Rise Time	t_r			5.2		ns
Turn-Off Delay Time	$t_{D(OFF)}$			41.5		ns
Fall Time	t_f			12.8		ns
Total Gate Charge	Q_g	V_{DS} = -15V I_D = -3A V_{GS} = -10V		18.6		nC
Gate-Source Charge	Q_{gs}			3.5		nC
Gate-Drain Charge	Q_{gd}			2.3		nC

Note：
b. Pulse Test：Pulse width ≤ 300us , Duty Cycle ≤ 2% .
c. Guaranteed by design , not subject to production testing .

N-Channel:

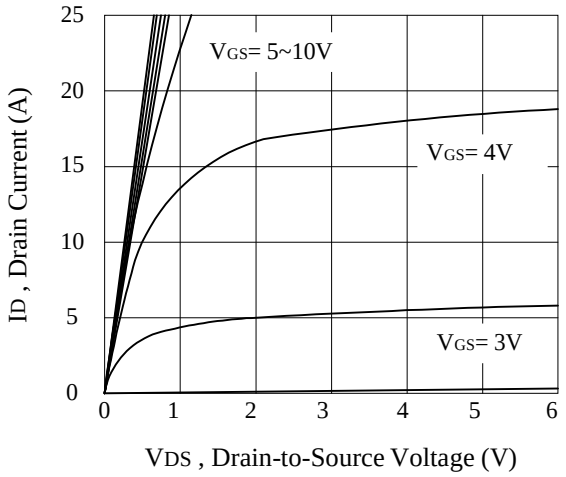


Figure 1. Output Characteristics

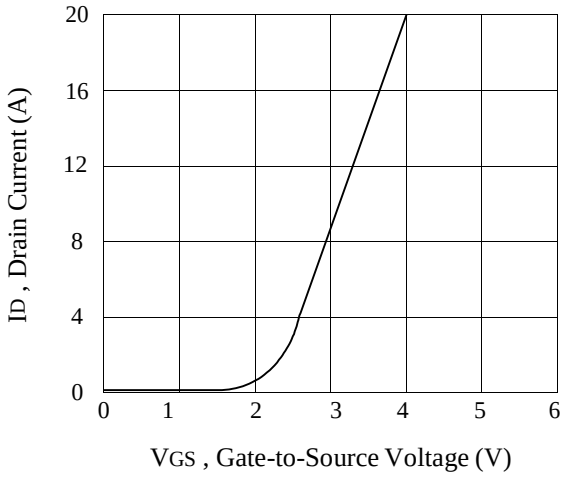


Figure 2. Transfer Characteristics

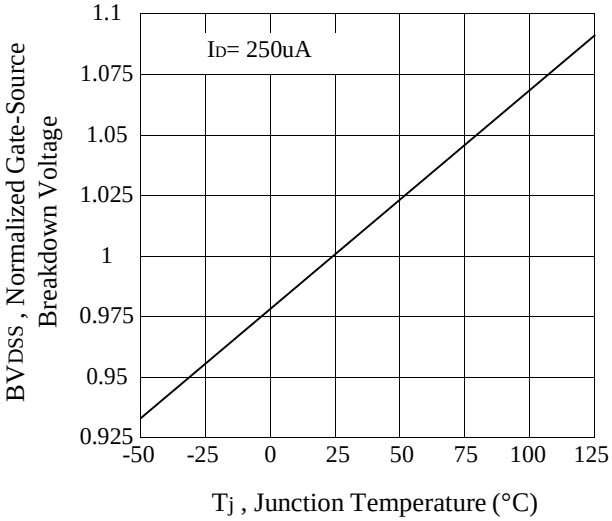


Figure 3. Breakdown Voltage Variation with Temperature

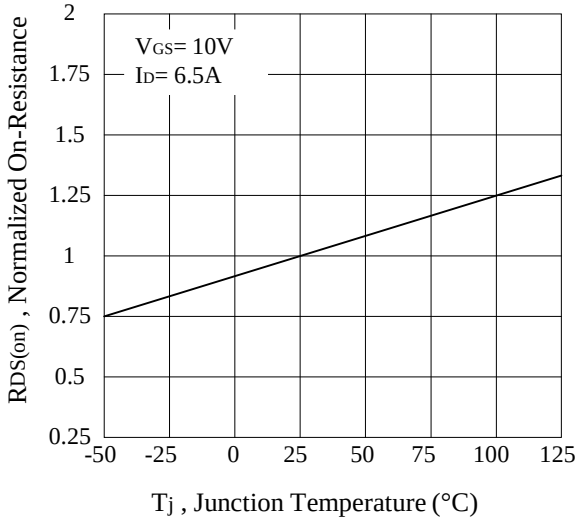


Figure 4. On-Resistance Variation with Temperature

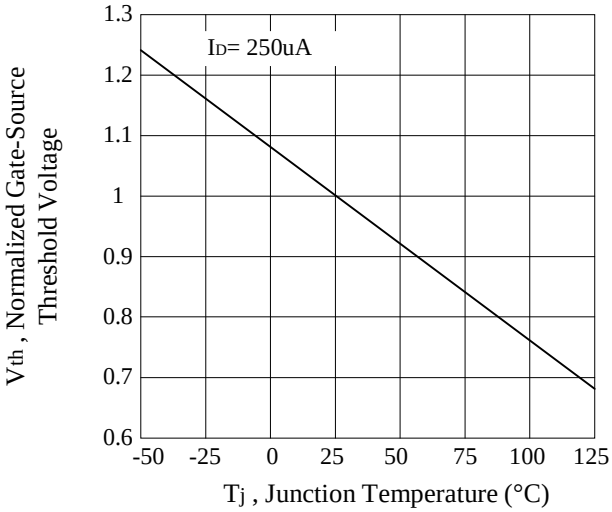


Figure 5. Gate Threshold Variation with Temperature

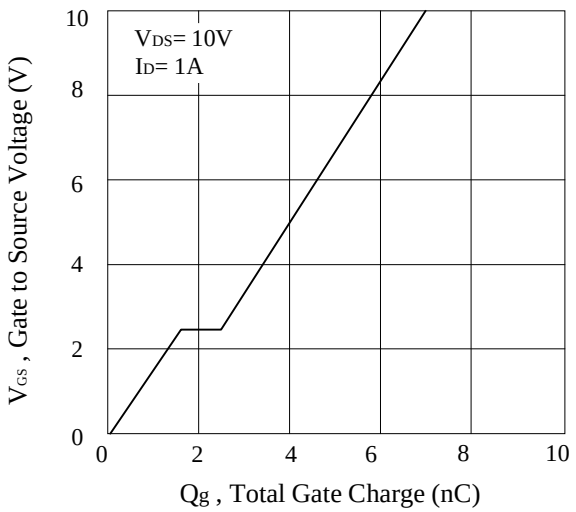
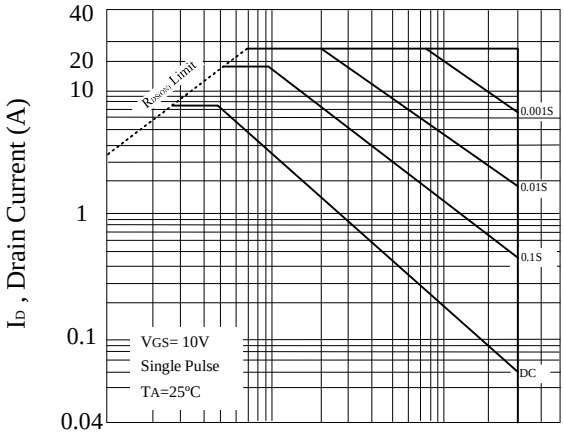
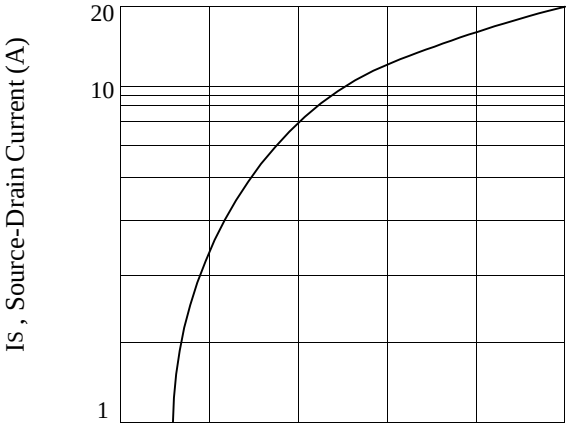


Figure 6. Gate Charge



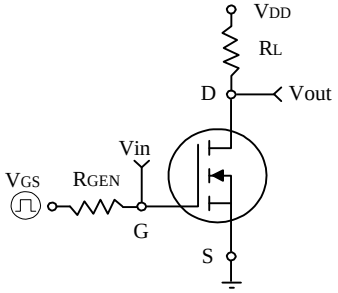
VDS , Drain-Source Voltage (V)

Figure 7. Maximum Safe Operating Area



VSD , Body Diode Forward Voltage (V)

Figure 8. Body Diode Forward Voltage Variation with Source Current



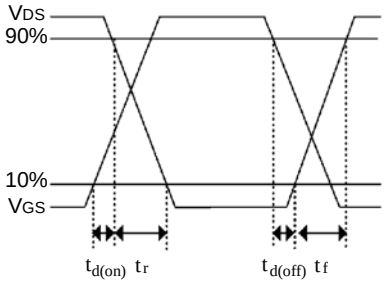
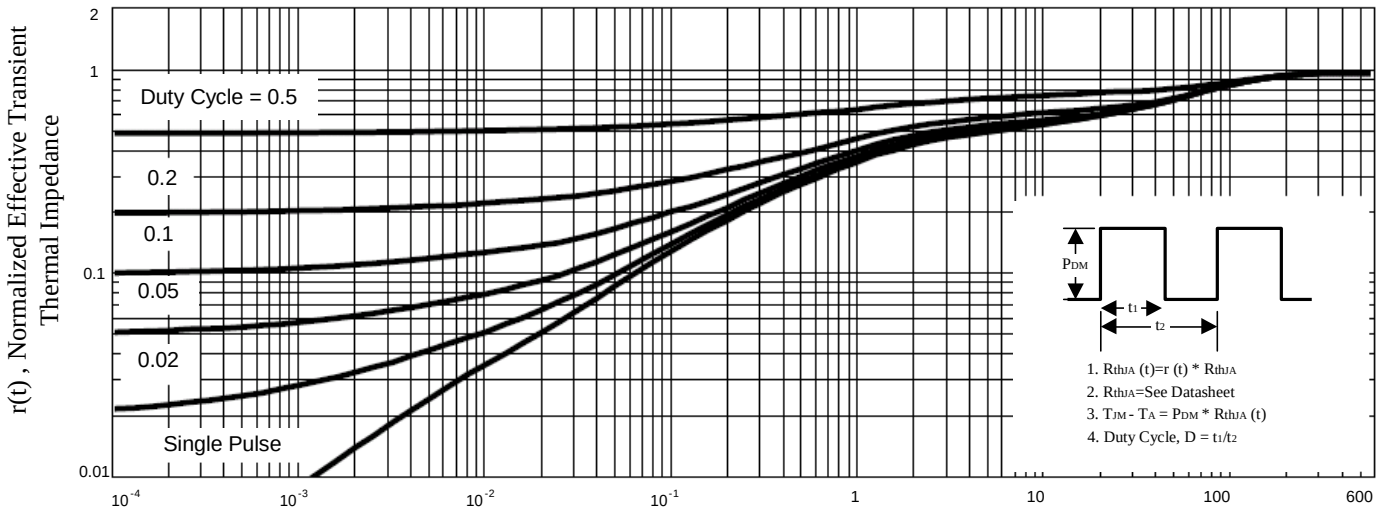


Figure 9. Switching Test Circuit and Switching Waveforms



Square Wave Pulse Duration (sec)

P-Channel:

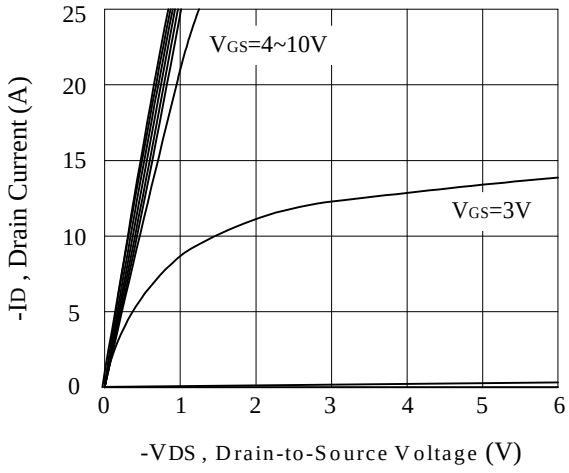


Figure 11. Output Characteristics

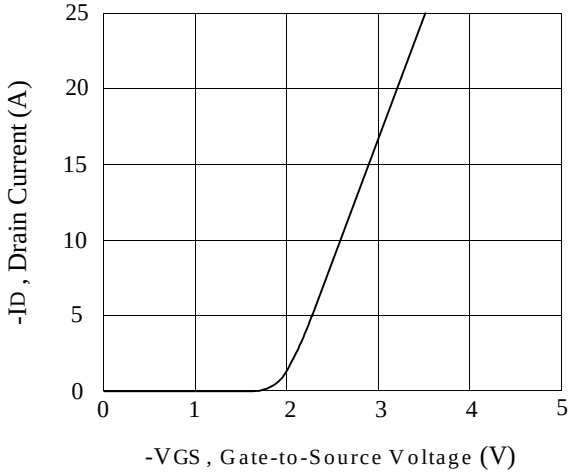


Figure 12. Transfer Characteristics

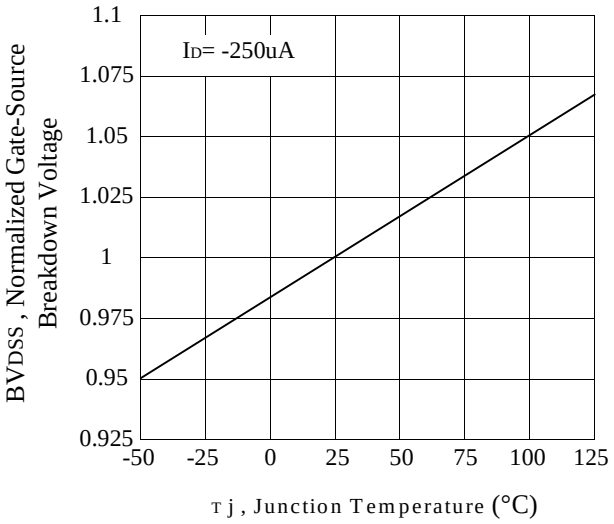


Figure 13. Breakdown Voltage Variation with Temperature

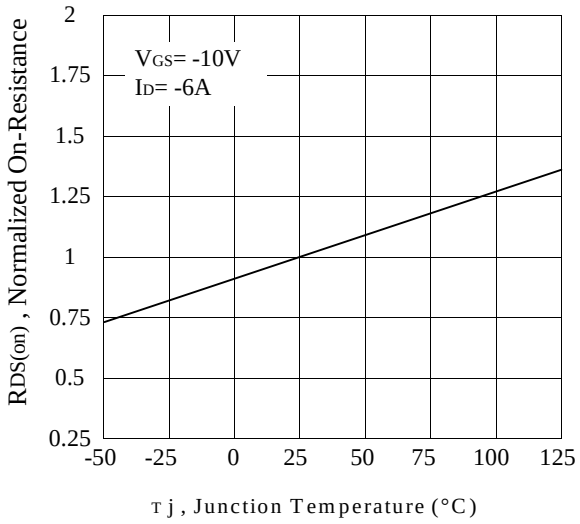
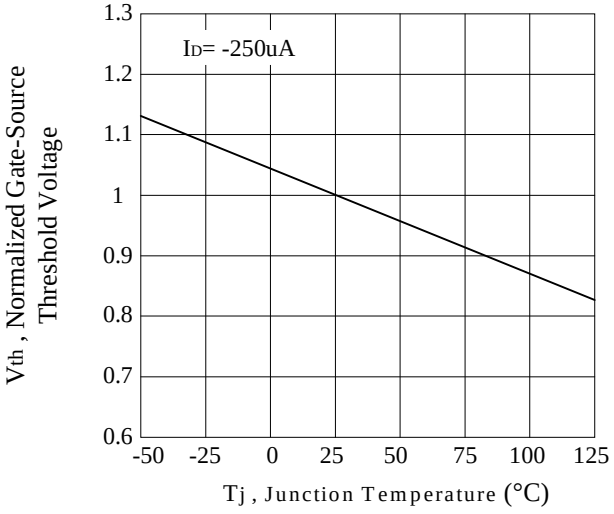
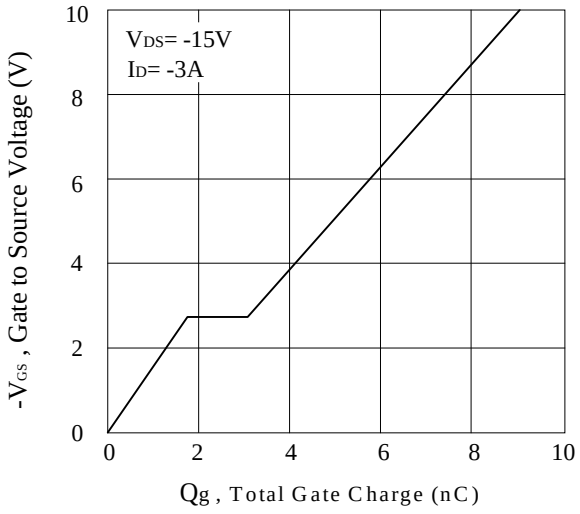


Figure 14. On-Resistance Variation with Temperature





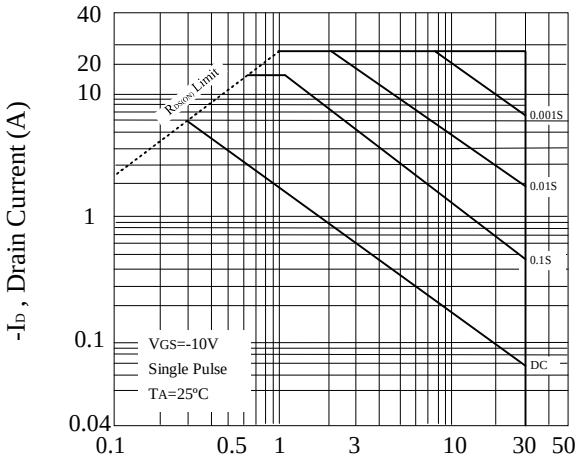


Figure 17. Maximum Safe Operating Area

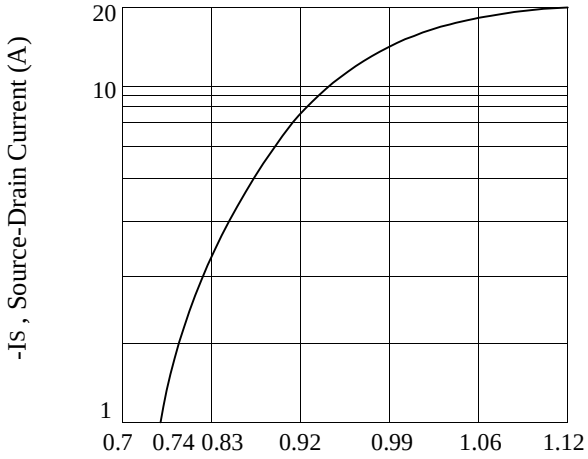


Figure 18. Body Diode Forward Voltage Variation with Source Current

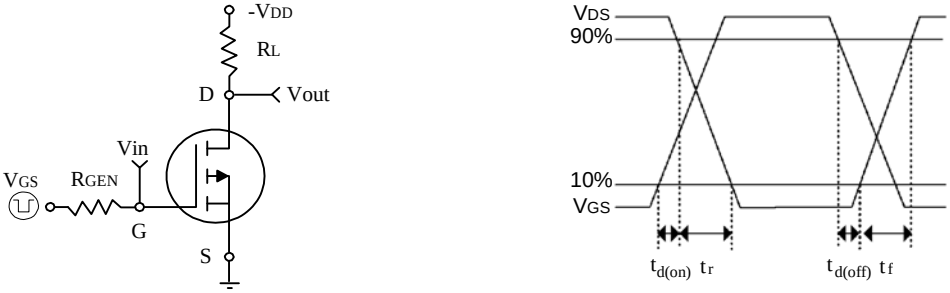
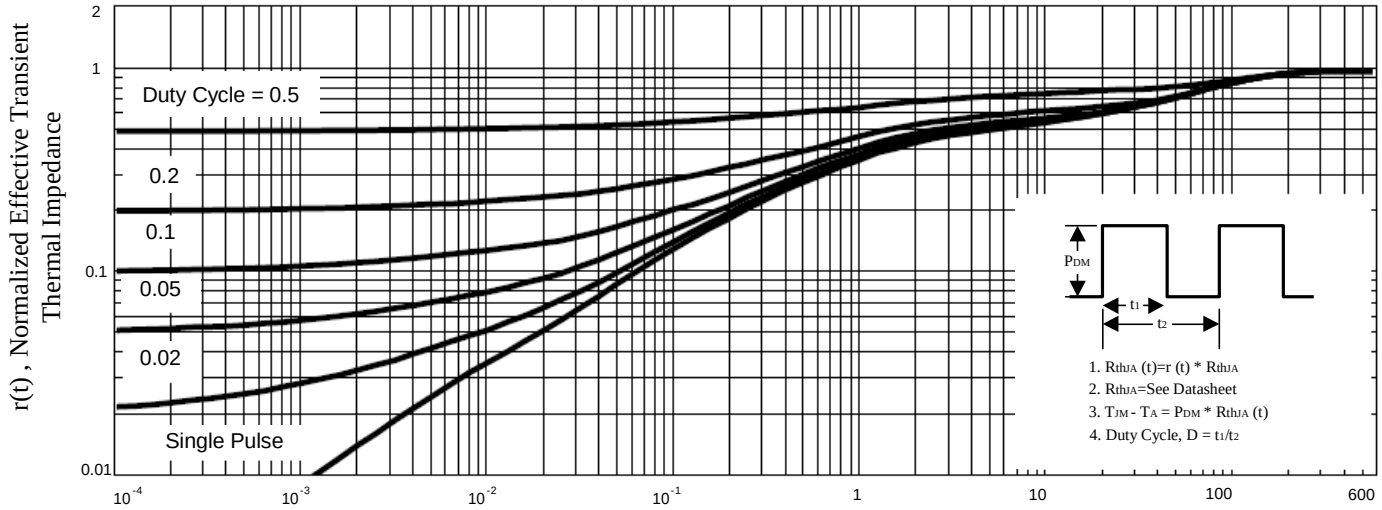


Figure 19. Switching Test Circuit and Switching Waveforms



X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for MOSFET ***category:***

Click to view products by PUOLOP ***manufacturer:***

Other Similar products are found below :

614233C 648584F NTNS3A92PZT5G IRFD120 IRFF430 JANTX2N5237 2N7000 2SK2464-TL-E FCA20N60_F109 FDZ595PZ AOD464 2SK2267(Q) 2SK2545(Q,T) 405094E 423220D MIC4420CM-TR VN1206L 614234A 715780A SSM6J414TU,LF(T 751625C IPP60R600P6XKSA1 RJK60S5DPK-M0#T0 PSMN4R2-30MLD TK31J60W5,S1VQ(O 2SK2614(TE16L1,Q) DMN1017UCP3-7 EFC2J004NUZTDG FCAB21350L1 P85W28HP2F-7071 DMN1053UCP4-7 NTE2384 NTE2969 NTE6400A DMN61D9UWQ-13 US6M2GTR DMN31D5UDJ-7 SSM6P54TU,LF DMP22D4UFO-7B IPS60R3K4CEAKMA1 DMN1006UCA6-7 DMN16M9UCA6-7 STF5N65M6 STU5N65M6 C3M0021120D DMN13M9UCA6-7 BSS340NWH6327XTSA1 MCM3400A-TP DMTH10H4M6SPS-13 IRF40SC240ARMA1