

CRM6376PQ22

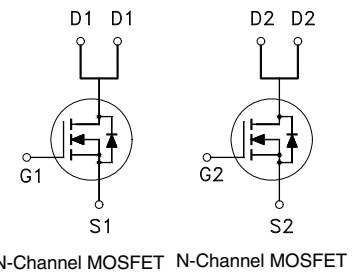
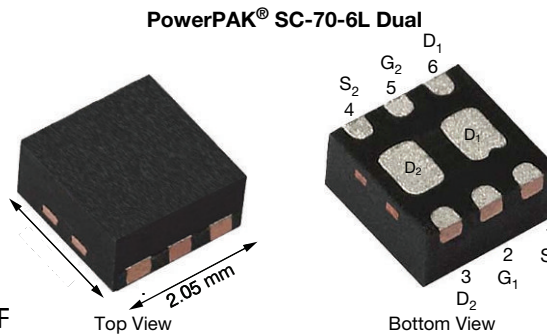
Dual N-Channel Logic Level Enhancement Mode Field Effect Transistor

Product Summary:

BV_{DSS}	30V
$R_{DS(on)}$ (MAX.)	58m Ω
I_D	4.5A

UIS, Rg 100% Tested

Pb-Free Lead Plating & Halogen F



MARKING
6376PQ22



RoHS
COMPLIANT

ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ Unless Otherwise Noted)

PARAMETERS/TEST CONDITIONS		SYMBOL	LIMITS	UNIT
Gate-Source Voltage		V_{GS}	± 12	V
Continuous Drain Current	$T_A = 25^\circ\text{C}$	I_D	4.4	A
	$T_A = 70^\circ\text{C}$		3.5	
Pulsed Drain Current ¹		I_{DM}	15	
Power Dissipation	$T_A = 25^\circ\text{C}$	P_D	1.9	W
	$T_A = 70^\circ\text{C}$		1.2	
Operating Junction & Storage Temperature Range		T_{j}, T_{stg}	-55 to 150	$^\circ\text{C}$

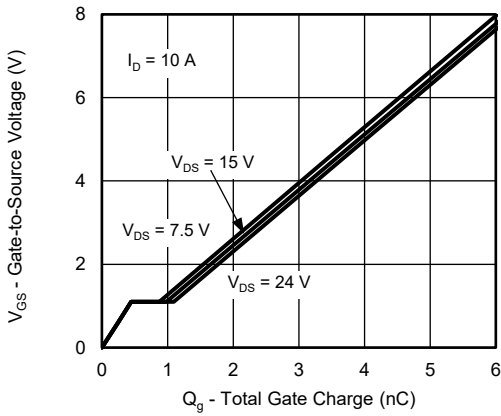
THERMAL RESISTANCE RATINGS

THERMAL RESISTANCE	SYMBOL	TYPICAL	MAXIMUM	UNIT
Junction-to-Case	$R_{\theta JC}$		7.5	$^\circ\text{C} / \text{W}$
Junction-to-Ambient ³	$R_{\theta JA}$		55	

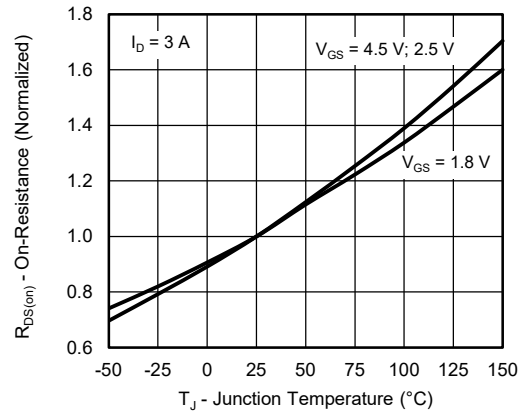
ELECTRICAL CHARACTERISTICS (T_J = 25 °C, Unless Otherwise Noted)

PARAMETER	SYMBOL	TEST CONDITIONS	LIMITS			UNIT
			MIN	TYP	MAX	
STATIC						
Drain-Source Breakdown Voltage	V _{(BR)DSS}	V _{GS} = 0V, I _D = 250μA	30			V
Gate Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = 250μA	0.4		0.9	
Gate-Body Leakage	I _{GSS}	V _{DS} = 0V, V _{GS} = ±20V			±100	nA
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = 30V, V _{GS} = 0V			1	μA
		V _{DS} = 30V, V _{GS} = 0V, T _J = 55 °C			10	
On-State Drain Current ¹	I _{D(ON)}	V _{DS} = 5V, V _{GS} = 4.5V	10			A
Drain-Source On-State Resistance ¹	R _{DS(ON)}	V _{GS} = 4.5V, I _D = 3A		46	58	mΩ
		V _{GS} = 2.5V, I _D = 3A		50	65	
		V _{GS} = 1.8V, I _D = 1A		55	77	
Forward Transconductance ¹	g _{fs}	V _{DS} = 15V, I _D = 3A		14		S
DYNAMIC						
Input Capacitance	C _{iss}	V _{GS} = 0V, V _{DS} = 15V, f = 1MHz		520		pF
Output Capacitance	C _{oss}			88		
Reverse Transfer Capacitance	C _{rss}			62		
Gate Resistance	R _g	V _{GS} = 15mV, V _{DS} = 0V, f = 1MHz		6.0		Ω
Total Gate Charge ^{1,2}	Q _g	V _{DS} = 15V, V _{GS} = 4.5V, I _D = 9A		38		nC
Gate-Source Charge ^{1,2}	Q _{gs}			3.1		
Gate-Drain Charge ^{1,2}	Q _{gd}			8.2		
Turn-On Delay Time ^{1,2}	t _{d(on)}	V _{DS} = 15V, I _D = 5.5A, V _{GS} = 4.5V, R _{GS} = 6Ω		10		nS
Rise Time ^{1,2}	t _r			39.5		
Turn-Off Delay Time ^{1,2}	t _{d(off)}			65		
Fall Time ^{1,2}	t _f			30		
SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS (T_C = 25 °C)						
Continuous Current	I _S				4.5	A
Pulsed Current ³	I _{SM}				15	
Forward Voltage ¹	V _{SD}	I _F = I _S , V _{GS} = 0V			1.2	V
Reverse Recovery Time	t _{rr}	I _F = I _S , dI _F /dt = 100A / μS		0.184		nS
Reverse Recovery Charge	Q _{rr}				4.4	nC

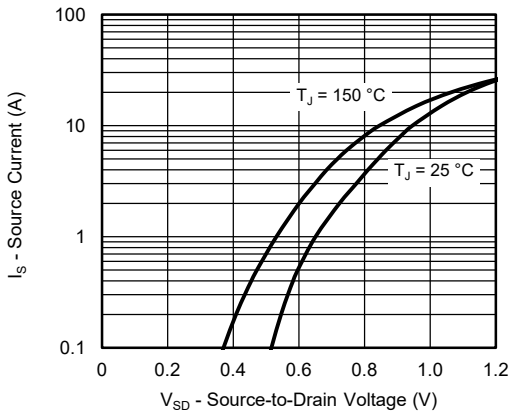
TYPICAL CHARACTERISTICS (25 °C, unless otherwise noted)



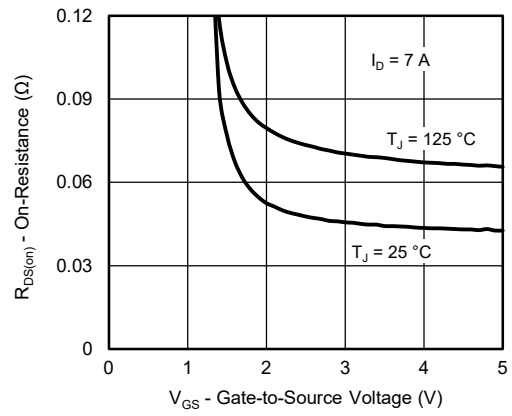
Gate Charge



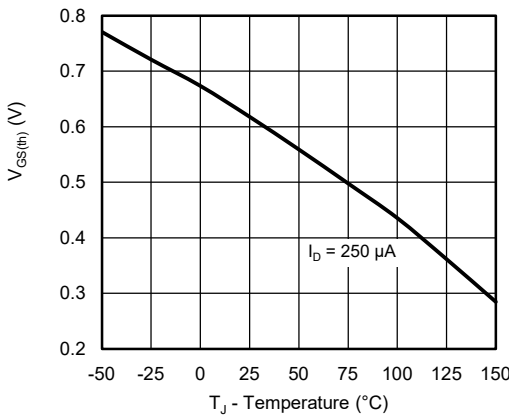
On-Resistance vs. Junction Temperature



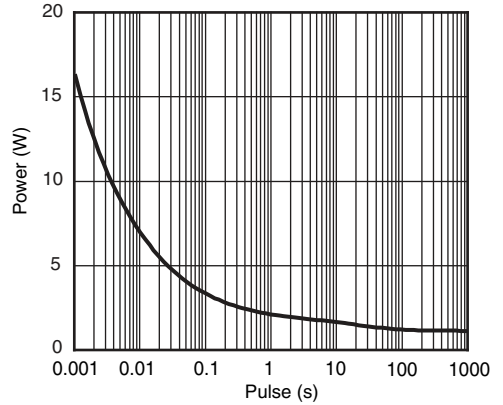
Source-Drain Diode Forward Voltage



On-Resistance vs. Gate-to-Source Voltage

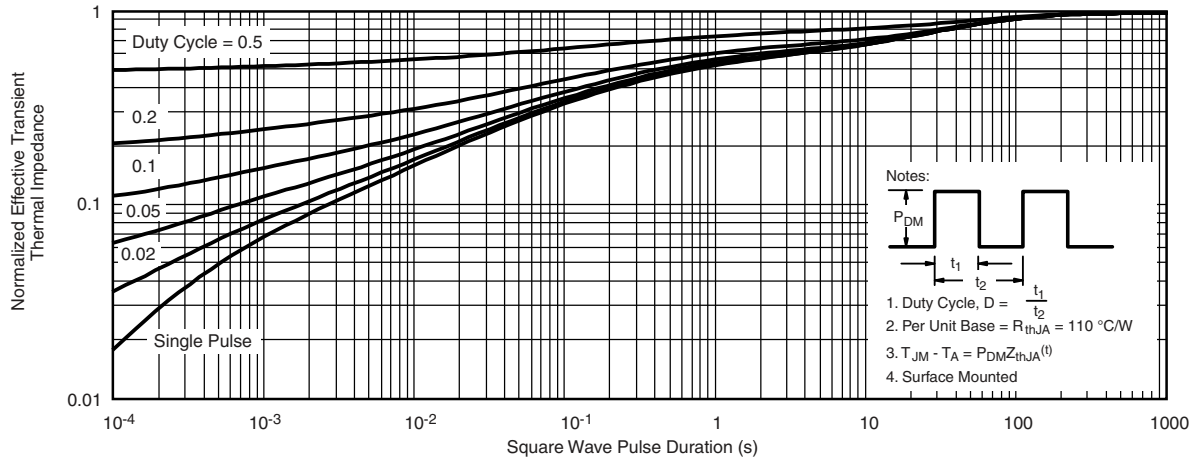


Threshold Voltage

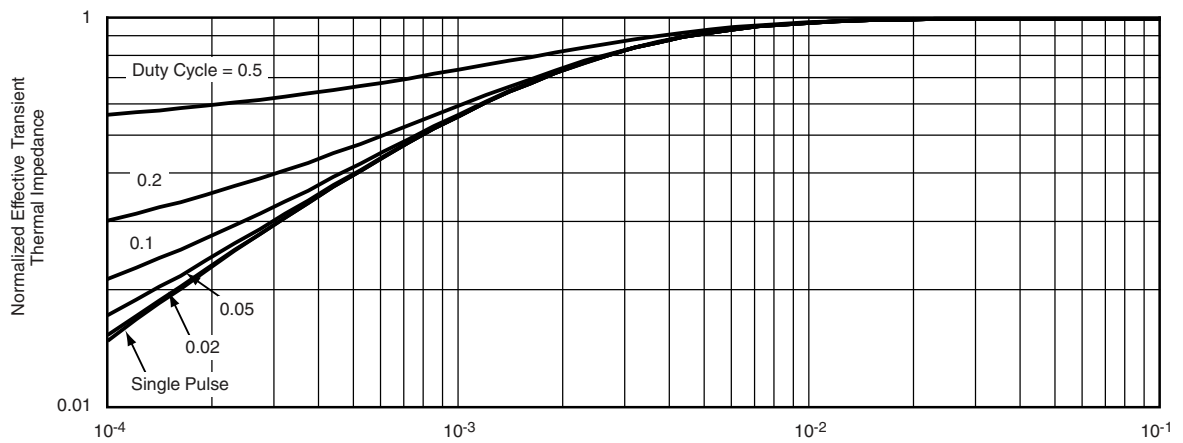


Single Pulse Power (Junction-to-Ambient)

TYPICAL CHARACTERISTICS (25 °C, unless otherwise noted)



Normalized Thermal Transient Impedance, Junction-to-Ambient



Normalized Thermal Transient Impedance, Junction-to-Case