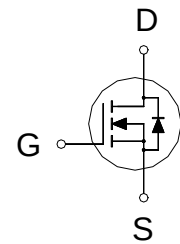


N-Channel Logic Level Enhancement Mode Field Effect Transistor

Product Summary:

BV_{DSS}	40V
$R_{DS(on)}$ (MAX.)	4m Ω
I_D	208A



N-Channel MOSFET



RoHS
COMPLIANT

UIS, Rg 100% Tested

Pb-Free Lead Plating & Halogen Free

MARKING
7440D263

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

PARAMETERS/TEST CONDITIONS		SYMBOL	LIMITS	UNIT
Gate-Source Voltage		V_{GS}	± 20	V
Continuous Drain Current	$T_C = 25^\circ\text{C}$	I_D	208	A
	$T_C = 100^\circ\text{C}$		110	
Pulsed Drain Current ¹		I_{DM}	400	
Avalanche Energy	$L = 0.125\text{mH}$	E_{AS}	400	mJ
Power Dissipation	$T_C = 25^\circ\text{C}$	P_D	150	W
	$T_C = 100^\circ\text{C}$		75	
Operating Junction & Storage Temperature Range		$T_{j, T_{stg}}$	-55 to 175	$^\circ\text{C}$

THERMAL RESISTANCE	SYMBOL	TYPICAL	MAXIMUM	UNIT
Junction-to-Case	$R_{\theta JC}$	0.85		$^\circ\text{C} / \text{W}$
Junction-to-Ambient	$R_{\theta JA}$	62.5		

ELECTRICAL CHARACTERISTICS ($T_c = 25\text{ }^\circ\text{C}$, Unless Otherwise Noted)

PARAMETER	SYMBOL	TEST CONDITIONS	LIMITS			UNIT
			MIN	TYP	MAX	
STATIC						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = 250\mu A$	40			V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu A$	1		3	
Gate-Body Leakage	I_{GSS}	$V_{DS} = 0V, V_{GS} = \pm 20V$			± 100	nA
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = 32V, V_{GS} = 0V$			1	μA
		$V_{DS} = 32V, V_{GS} = 0V, T_J = 125\text{ }^{\circ}C$			30	
Drain-Source On-State Resistance ¹	$R_{DS(ON)}$	$V_{GS} = 10V, I_D = 50A$		2.5	4.0	m Ω
DYNAMIC						
Input Capacitance	C_{iss}	$V_{GS} = 0V, V_{DS} = 20V, f = 1MHz$		4500		pF
Output Capacitance	C_{oss}			810		
Reverse Transfer Capacitance	C_{rss}			246		
Gate Resistance	R_g	$V_{GS} = 0V, V_{DS} = 0V, f = 1MHz$		2.0		Ω
Total Gate Charge ^{1,2}	Q_g	$V_{DS} = 20V, V_{GS} = 10V, I_D = 50A$		78		nC
Gate-Source Charge ^{1,2}	Q_{gs}			15		
Gate-Drain Charge ^{1,2}	Q_{gd}			26		
Turn-On Delay Time ^{1,2}	$t_{d(on)}$	$V_{DS} = 20V, I_D = 50A, V_{GS} = 10V, R_{GS} = 4.7\Omega$		19		nS
Rise Time ^{1,2}	t_r			15		
Turn-Off Delay Time ^{1,2}	$t_{d(off)}$			60		
Fall Time ^{1,2}	t_f			34		
SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS (T _C = 25 °C)						
Continuous Current	I_S				208	A
Forward Voltage ¹	V_{SD}	$I_F = 50A, V_{GS} = 0V$		0.85	1.2	V
Reverse Recovery Time	t_{rr}	$I_F = 50A, dI_F/dt = 100A / \mu S$		55		nS
Reverse Recovery Charge	Q_{rr}			95		nC

TYPICAL CHARACTERISTICS

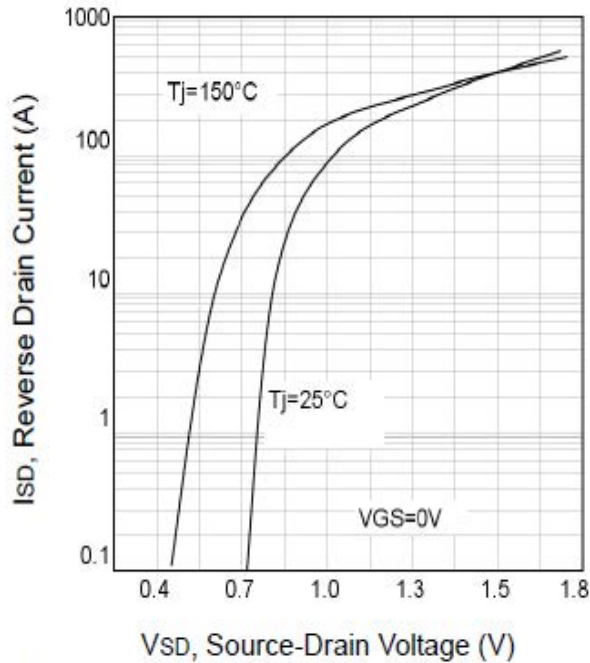


Fig7. Typical Source-Drain Diode Forward Voltage

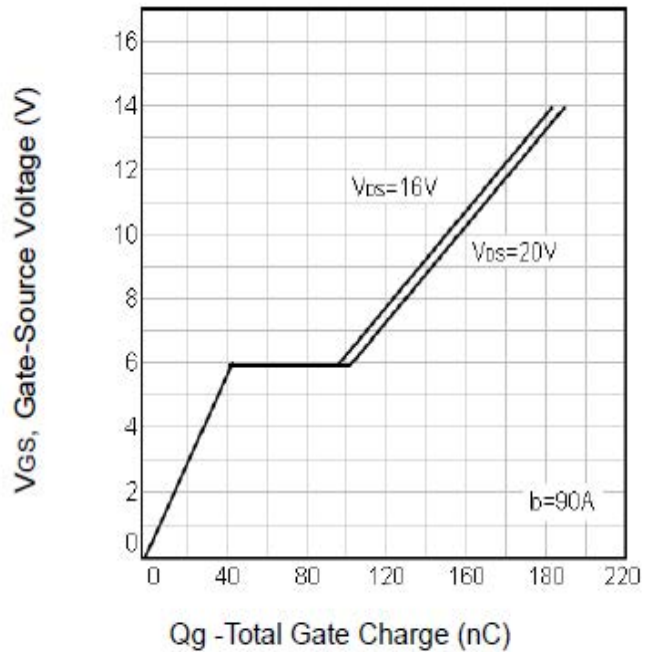


Fig8. Typical Gate Charge Vs. Gate-Source Voltage

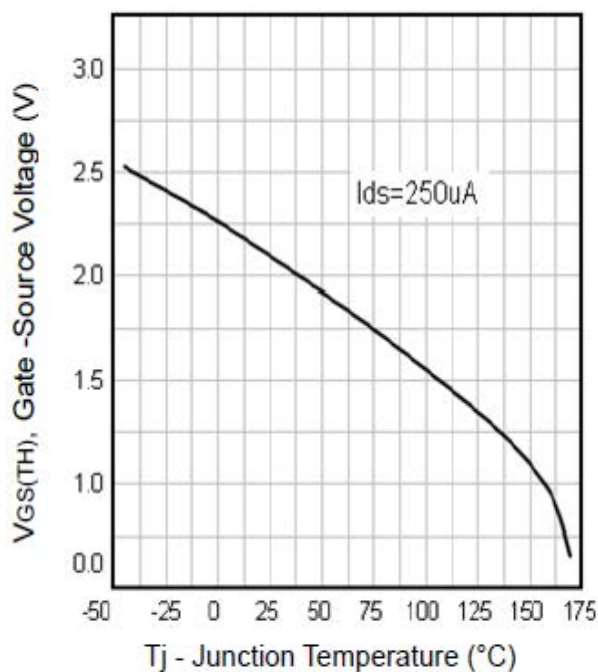


Fig9. Threshold Voltage Vs. Temperature

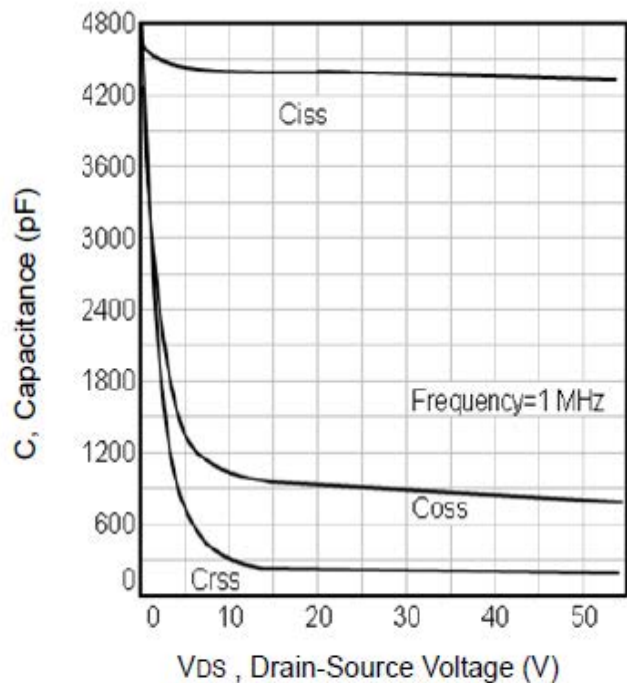


Fig10. Typical Capacitance Vs. Drain-Source Voltage

TYPICAL CHARACTERISTICS

