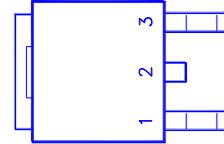
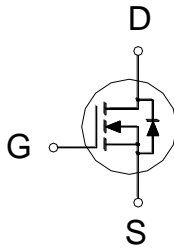




**PRODUCT SUMMARY**

$V_{(BR)DSS}$	$R_{DS(ON)}$	$I_D$
30V	7mΩ	60A



- 1. GATE
- 2. DRAIN
- 3. SOURCE

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

PARAMETERS/TEST CONDITIONS		SYMBOL	LIMITS	UNITS
Drain-Source Voltage		$V_{DS}$	30	V
Gate-Source Voltage		$V_{GS}$	±20	V
Continuous Drain Current <sup>2</sup>	$T_C = 25\text{ }^\circ\text{C}$	$I_D$	60	A
	$T_C = 100\text{ }^\circ\text{C}$		38	
Pulsed Drain Current <sup>1</sup>		$I_{DM}$	120	
Avalanche Current		$I_{AS}$	25	
Avalanche Energy	$L = 0.1\text{mH}$	$E_{AS}$	31	mJ
Power Dissipation	$T_C = 25\text{ }^\circ\text{C}$	$P_D$	48	W
	$T_C = 100\text{ }^\circ\text{C}$		19	
Junction & Storage Temperature Range		$T_J, T_{stg}$	-55 to 150	°C

**THERMAL RESISTANCE RATINGS**

THERMAL RESISTANCE	SYMBOL	TYPICAL	MAXIMUM	UNITS
Junction-to-Case	$R_{\theta JC}$		2.6	°C / W
Junction-to-Ambient	$R_{\theta JA}$		62.5	

<sup>1</sup>Pulse width limited by maximum junction temperature.

<sup>2</sup>Package limitation current is 55A

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

PARAMETER	SYMBOL	TEST CONDITIONS	LIMITS			UNIT
			MIN	TYP	MAX	
<b>STATIC</b>						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = 250\mu A$	30			V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu A$	1.3	1.6	2.3	
Gate-Body Leakage	$I_{GSS}$	$V_{DS} = 0V, V_{GS} = \pm 20V$			±100	nA
Zero Gate Voltage Drain Current	$I_{DSS}$	$V_{DS} = 24V, V_{GS} = 0V$			1	μA
		$V_{DS} = 20V, V_{GS} = 0V, T_J = 125\text{ }^\circ\text{C}$			10	
Drain-Source On-State Resistance <sub>1</sub>	$R_{DS(ON)}$	$V_{GS} = 4.5V, I_D = 15A$		5.7	9	mΩ
		$V_{GS} = 10V, I_D = 20A$		4.7	7	

Forward Transconductance <sup>1</sup>	$g_{fs}$	$V_{DS} = 5V, I_D = 20A$		75		S	
<b>DYNAMIC</b>							
Input Capacitance	$C_{iss}$	$V_{GS} = 0V, V_{DS} = 15V, f = 1MHz$		992		pF	
Output Capacitance	$C_{oss}$			189			
Reverse Transfer Capacitance	$C_{rss}$			122			
Gate Resistance	$R_g$	$V_{GS} = 0V, V_{DS} = 0V, f = 1MHz$		2		$\Omega$	
Total Gate Charge <sup>2</sup>	$Q_{g(VGS=10V)}$	$V_{DS} = 15V, I_D = 20A$		22		nC	
	$Q_{g(VGS=4.5V)}$			12			
Gate-Source Charge <sup>2</sup>	$Q_{gs}$			2.3			
Gate-Drain Charge <sup>2</sup>	$Q_{gd}$			7.2			
Turn-On Delay Time <sup>2</sup>	$t_{d(on)}$		$V_{DS} = 15V$ $I_D \cong 20A, V_{GS} = 10V, R_{GEN} = 6\Omega$		18		nS
Rise Time <sup>2</sup>	$t_r$				11		
Turn-Off Delay Time <sup>2</sup>	$t_{d(off)}$			37			
Fall Time <sup>2</sup>	$t_f$			11			
<b>SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS (<math>T_J = 25^\circ C</math>)</b>							
Continuous Current <sup>3</sup>	$I_S$			40		A	
Forward Voltage <sup>1</sup>	$V_{SD}$	$I_F = 20A, V_{GS} = 0V$		1.2		V	
Reverse Recovery Time	$t_{rr}$	$I_F = 20A, di_F/dt = 100A / \mu S$		11.5		nS	
Reverse Recovery Charge	$Q_{rr}$			2		nC	

<sup>1</sup>Pulse test : Pulse Width  $\leq 300 \mu sec$ , Duty Cycle  $\leq 2\%$ .

<sup>2</sup>Independent of operating temperature.

<sup>3</sup>Package limitation current is 55A