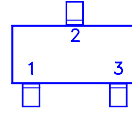
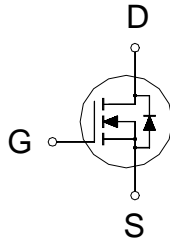


PRODUCT SUMMARY

$V_{(BR)DSS}$	$R_{DS(ON)}$	I_D
25V	180mΩ	1.2A



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

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

PARAMETERS/TEST CONDITIONS		SYMBOL	LIMITS	UNITS
Gate-Source Voltage		V_{GS}	±15	V
Continuous Drain Current	$T_C = 25\text{ °C}$	I_D	1.2	A
	$T_C = 100\text{ °C}$		1.0	
Pulsed Drain Current ¹		I_{DM}	12	
Power Dissipation	$T_C = 25\text{ °C}$	P_D	0.6	W
	$T_C = 100\text{ °C}$		0.5	
Operating Junction & Storage Temperature Range		T_j, T_{stg}	-55 to 150	°C
Lead Temperature (¹ / ₁₆ " from case for 10 sec.)		T_L	275	

THERMAL RESISTANCE RATINGS

THERMAL RESISTANCE	SYMBOL	TYPICAL	MAXIMUM	UNITS
Junction-to-Case	$R_{\theta JC}$		65	°C / W
Junction-to-Ambient	$R_{\theta JA}$		230	

¹Pulse width limited by maximum junction temperature.

ELECTRICAL CHARACTERISTICS ($T_C = 25\text{ °C}$, Unless Otherwise Noted)

PARAMETER	SYMBOL	TEST CONDITIONS	LIMITS			UNIT
			MIN	TYP	MAX	
STATIC						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = 250\text{ }\mu A$	25			V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\text{ }\mu A$	0.7	1.0	2.5	
Gate-Body Leakage	I_{GSS}	$V_{DS} = 0V, V_{GS} = \pm 15V$			±250	nA
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = 20V, V_{GS} = 0V$			25	μA
		$V_{DS} = 20V, V_{GS} = 0V, T_J = 125\text{ °C}$			250	
On-State Drain Current ¹	$I_{D(ON)}$	$V_{DS} = 10V, V_{GS} = 10V$	1.2			A
Drain-Source On-State Resistance ¹	$R_{DS(ON)}$	$V_{GS} = 7V, I_D = 1.2A$		220	250	mΩ
		$V_{GS} = 10V, I_D = 1.2A$		180	220	
Forward Transconductance ¹	g_{fs}	$V_{DS} = 20V, I_D = 1.2A$		16		S

DYNAMIC						
Input Capacitance	C_{iss}	$V_{GS} = 0V, V_{DS} = 15V, f = 1MHz$		120	pF	
Output Capacitance	C_{oss}			100		
Reverse Transfer Capacitance	C_{rss}			85		
Total Gate Charge ²	Q_g	$V_{DS} = 0.5V_{(BR)DSS}, V_{GS} = 10V, I_D = 1A$		11	nC	
Gate-Source Charge ²	Q_{gs}			3.0		
Gate-Drain Charge ²	Q_{gd}			5.8		
Turn-On Delay Time ²	$t_{d(on)}$	$V_{DS} = 15V, R_L = 1\Omega, I_D \cong 1A, V_{GS} = 10V, R_{GS} = 50\Omega$		7	nS	
Rise Time ²	t_r			20		
Turn-Off Delay Time ²	$t_{d(off)}$			13		
Fall Time ²	t_f			19		
SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS ($T_c = 25\text{ }^\circ\text{C}$)						
Continuous Current	I_S			1.2	A	
Pulsed Current ³	I_{SM}			12		
Forward Voltage ¹	V_{SD}	$I_F = I_S, V_{GS} = 0V$			1.3	V
Reverse Recovery Time	t_{rr}	$I_F = I_S, di_F/dt = 100A / \mu S$		70	nS	
Reverse Recovery Charge	Q_{rr}			0.22	μC	

¹Pulse test : Pulse Width $\leq 300\ \mu\text{sec}$, Duty Cycle $\leq 2\%$.

²Independent of operating temperature.

³Pulse width limited by maximum junction temperature.

REMARK: THE PRODUCT MARKED WITH "102B"

SOT-23 (M3) MECHANICAL DATA

Dimension	mm			Dimension	mm		
	Min.	Typ.	Max.		Min.	Typ.	Max.
A		0.95		H	0.10	0.15	0.25
B	2.60	2.80	3.00	I	0.37		
C	1.40	1.60	1.80	J			
D	2.70	2.90	3.10	K			
E	1.00	1.10	1.30	L			
F	0.00		0.10	M			
G	0.35	0.40	0.50	N			

