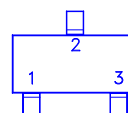
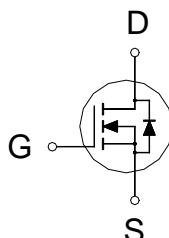


PRODUCT SUMMARY

$V_{(BR)DSS}$	$R_{DS(ON)}$	I_D
30V	85mΩ	2.4A



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

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

PARAMETERS/TEST CONDITIONS		SYMBOL	LIMITS	UNITS
Gate-Source Voltage		V_{GS}	±20	V
Continuous Drain Current	$T_A = 25\text{ °C}$	I_D	2.4	A
	$T_A = 100\text{ °C}$		1.5	
Pulsed Drain Current ¹		I_{DM}	10	
Avalanche Current		I_{AS}	12	A
Avalanche Energy	$L = 0.1\text{mH}$	E_{AS}	7	mJ
Power Dissipation	$T_A = 25\text{ °C}$	P_D	0.75	W
	$T_A = 100\text{ °C}$		0.3	
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-Ambient	$R_{\theta JA}$		166	°C / W

¹Pulse width limited by maximum junction temperature.

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

PARAMETER	SYMBOL	TEST CONDITIONS	LIMITS			UNIT
			MIN	TYP	MAX	
STATIC						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = 250\mu A$	30			V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu A$	0.8	1.7	2.5	
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
		$V_{DS} = 20V, V_{GS} = 0V, T_J = 125\text{ °C}$			10	

On-State Drain Current ¹	$I_{D(ON)}$	$V_{DS} = 10V, V_{GS} = 10V$	10			A
Drain-Source On-State Resistance ¹	$R_{DS(ON)}$	$V_{GS} = 4.5V, I_D = 1.5A$		72	115	mΩ
		$V_{GS} = 10V, I_D = 3A$		50	85	
Forward Transconductance ¹	g_{fs}	$V_{DS} = 15V, I_D = 3A$		16		S
DYNAMIC						
Input Capacitance	C_{iss}	$V_{GS} = 0V, V_{DS} = 15V, f = 1MHz$		217		pF
Output Capacitance	C_{oss}			68		
Reverse Transfer Capacitance	C_{rss}			46		
Total Gate Charge ²	$Q_{g(4.5V)}$	$V_{DS} = 0.5V_{(BR)DSS},$ $I_D = 3A$		3		nC
	$Q_{g(10V)}$			6.2		
Gate-Source Charge ²	$Q_{gs(4.5V)}$			0.7		
	$Q_{gs(10V)}$			0.7		
Gate-Drain Charge ²	$Q_{gd(4.5V)}$			1.5		
	$Q_{gd(10V)}$			2.1		
Turn-On Delay Time ²	$t_{d(on)}$	$V_{DS} = 15V, R_L = 1\Omega$ $I_D \cong 3A, V_{GS} = 10V, R_{GS} = 2.5\Omega$		6.0		nS
Rise Time ²	t_r			6.0		
Turn-Off Delay Time ²	$t_{d(off)}$			20		
Fall Time ²	t_f			5.0		
SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS ($T_A = 25\text{ }^\circ\text{C}$)						
Continuous Current	I_S				2.3	A
Forward Voltage ¹	V_{SD}	$I_F = I_S, V_{GS} = 0V$			1.5	V

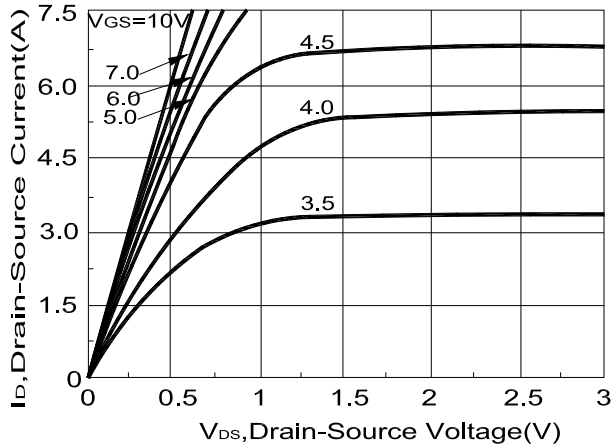
¹Pulse test : Pulse Width $\leq 300\text{ }\mu\text{sec}$, Duty Cycle $\leq 2\%$.

²Independent of operating temperature.

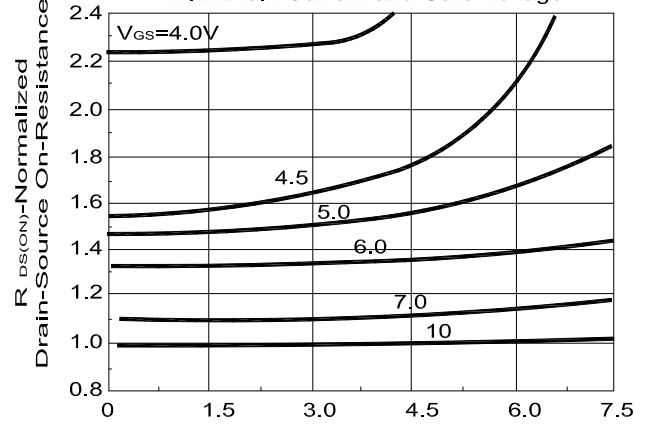
REMARK: THE PRODUCT MARKED WITH “1JYWW”, DATE CODE or LOT #

Typical Electrical Characteristics

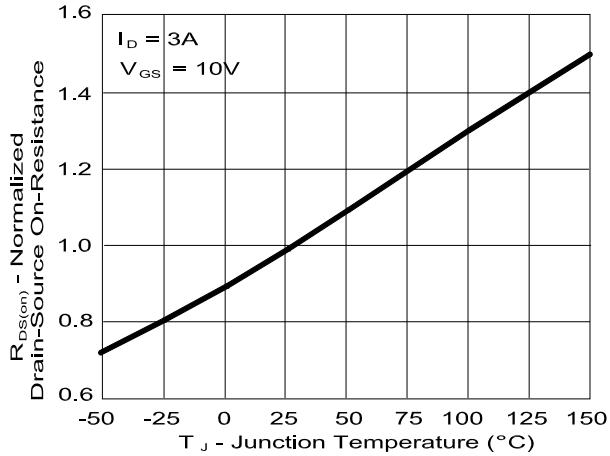
On-Region Characteristics.



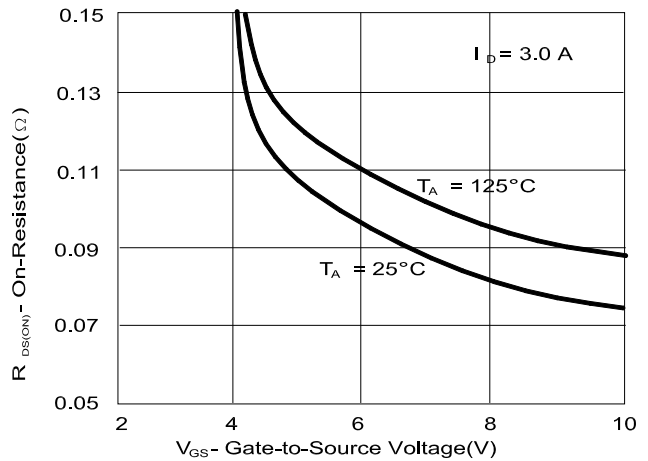
On-Resistance Variation with Drain Current and Gate Voltage.



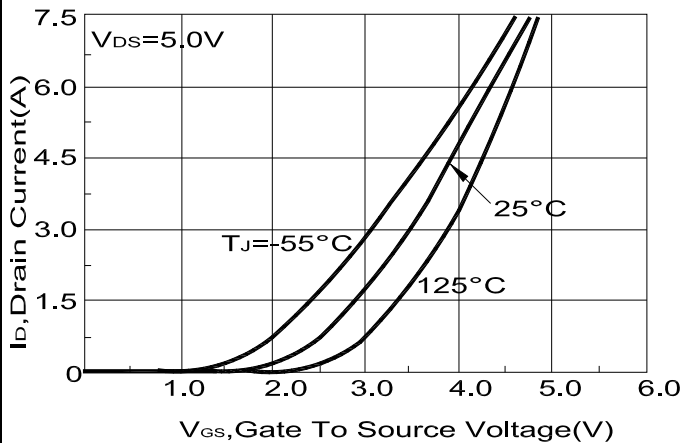
On-Resistance Variation with Temperature



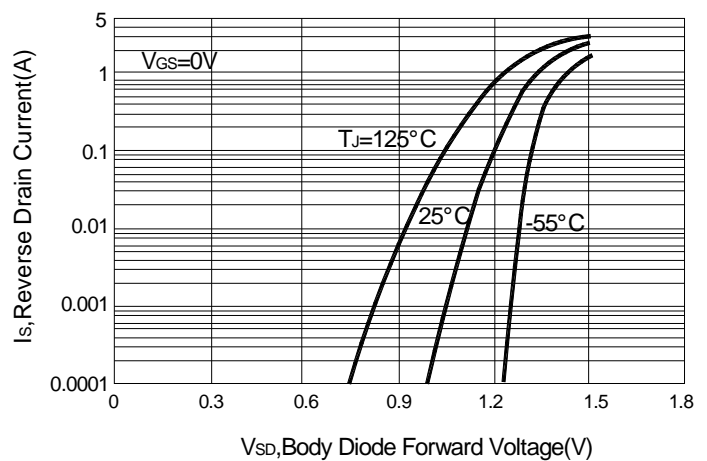
On-Resistance Variation with Gate-to-Source Voltage

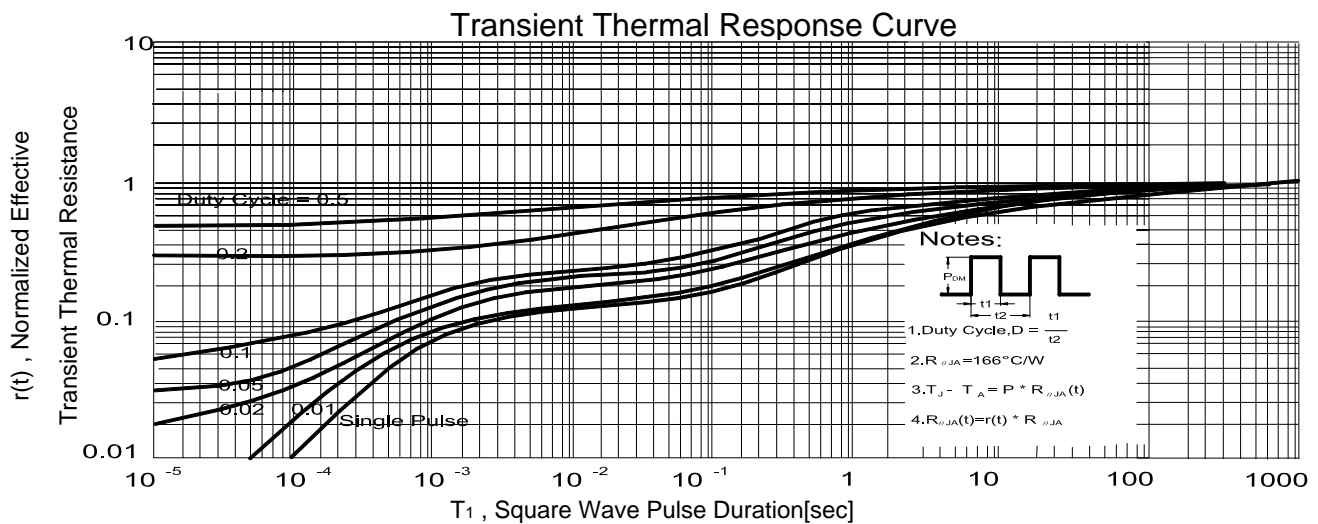
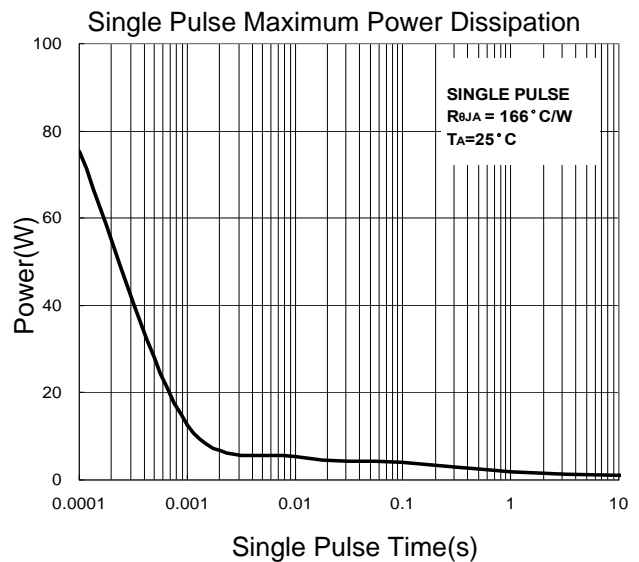
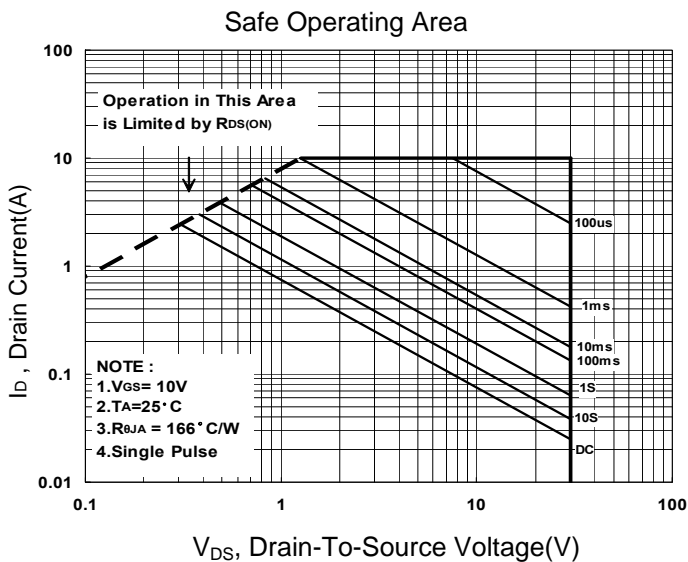
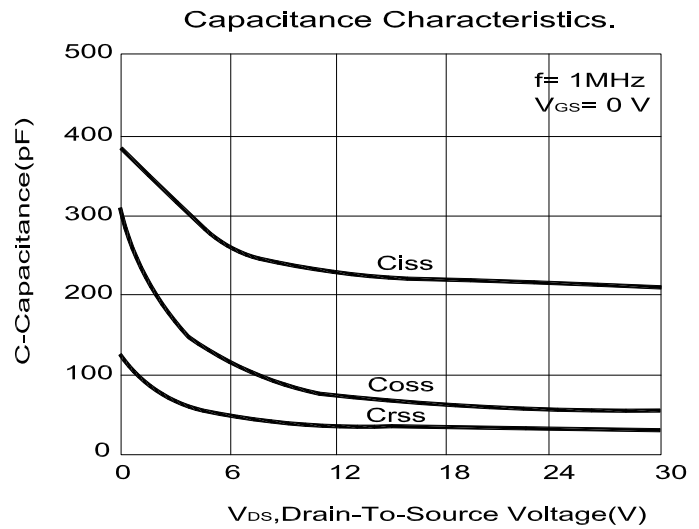
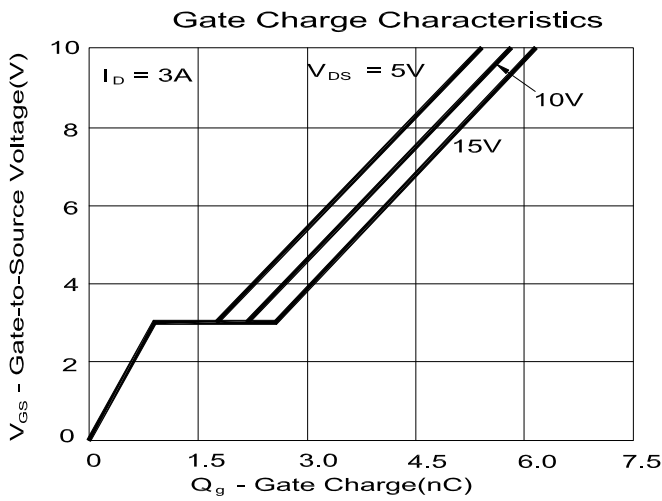


Transfer Characteristics.



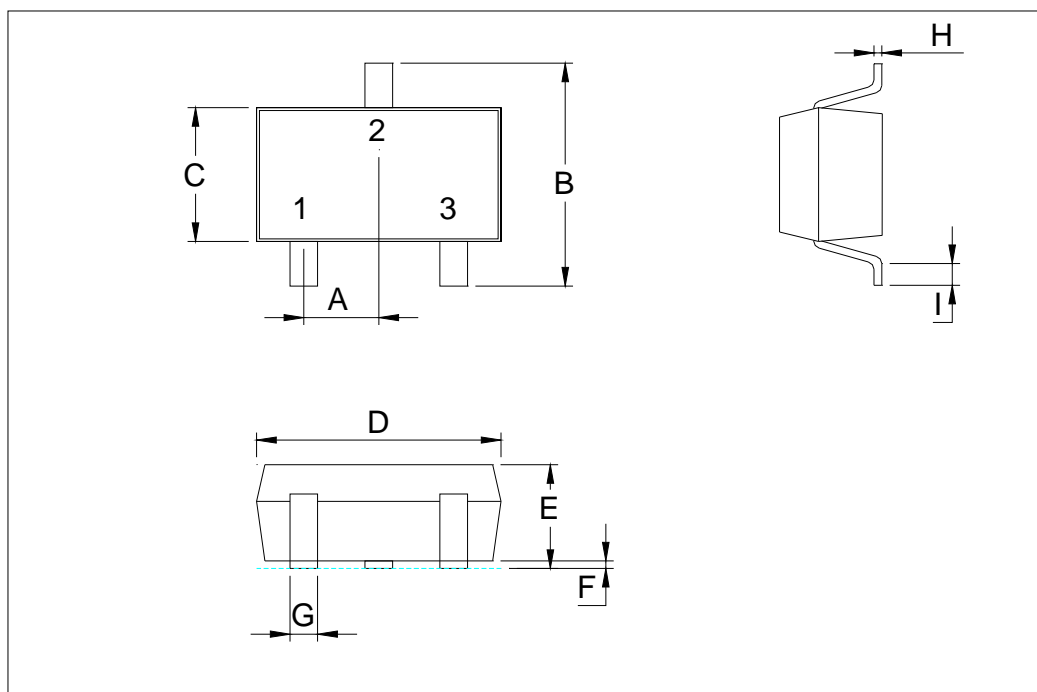
Body Diode Forward Voltage Variation with Source Current and Temperature.





SOT-23 (M3) MECHANICAL DATA

Dimension	mm			Dimension	mm		
	Min.	Typ.	Max.		Min.	Typ.	Max.
A	0.85	0.95	1.15	H	0.1	0.15	0.35
B	2.4		3	I	0.2		0.6
C	1.4	1.6	1.8	J			
D	2.7	2.9	3.1	K			
E	0.9	1.1	1.4	L			
F	0		0.1	M			
G	0.3	0.4	0.5	N			



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