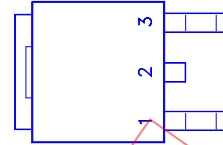
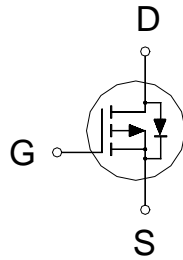


PRODUCT SUMMARY

$V_{(BR)DSS}$	$R_{DS(ON)}$	I_D
-30	30m	-18A



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

ABSOLUTE MAXIMUM RATINGS ($T_C = 25\text{ }^\circ\text{C}$ 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	$T_C = 25\text{ }^\circ\text{C}$	I_D	-18	A
	$T_C = 70\text{ }^\circ\text{C}$		-12	
Pulsed Drain Current ¹		I_{DM}	-30	
Power Dissipation	$T_C = 25\text{ }^\circ\text{C}$	P_D	50	W
	$T_C = 70\text{ }^\circ\text{C}$		20	
Operating Junction & Storage Temperature Range		T_j, T_{stg}	-55 to 150	$^\circ\text{C}$

THERMAL RESISTANCE RATINGS

THERMAL RESISTANCE	SYMBOL	TYPICAL	MAXIMUM	UNITS
Junction-to-Case	$R_{\theta JC}$		2.5	$^\circ\text{C} / \text{W}$
Junction-to-Ambient	$R_{\theta JA}$		70	$^\circ\text{C} / \text{W}$

¹Pulse width limited by maximum junction temperature.

²Duty cycle $\leq 1\%$

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	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = -250\mu\text{A}$	-30			V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = -250\mu\text{A}$	-1	-1.5	-3.0	
Gate-Body Leakage	I_{GSS}	$V_{DS} = 0V, V_{GS} = \pm 20V$			± 250	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	
On-State Drain Current ¹	$I_{D(ON)}$	$V_{DS} = -5V, V_{GS} = -10V$	-30			A
Drain-Source On-State Resistance ¹	$R_{DS(ON)}$	$V_{GS} = -5V, I_D = -10A$		42	52	m
		$V_{GS} = -10V, I_D = -18A$		24	30	
Forward Transconductance ¹	g_{fs}	$V_{DS} = -10V, I_D = -18A$		16		S

DYNAMIC						
Input Capacitance	C_{iss}	$V_{GS} = 0V, V_{DS} = -10V, f = 1MHz$		970		pF
Output Capacitance	C_{oss}			370		
Reverse Transfer Capacitance	C_{rss}			180		
Total Gate Charge ²	Q_g	$V_{DS} = 0.5V_{(BR)DSS}, V_{GS} = -10V,$ $I_D = -18A$		28	40	nC
Gate-Source Charge ²	Q_{gs}			6		
Gate-Drain Charge ²	Q_{gd}			12		
Turn-On Delay Time ²	$t_{d(on)}$	$V_{DS} = -15V,$ $I_D \cong -10A, V_{GS} = -10V, R_{GS} = 6$		20		nS
Rise Time ²	t_r			17		
Turn-Off Delay Time ²	$t_{d(off)}$			180		
Fall Time ²	t_f			75		
SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS ($T_C = 25^\circ C$)						
Continuous Current	I_S				-18	A
Pulsed Current ³	I_{SM}				-30	
Forward Voltage ¹	V_{SD}	$I_F = -1A, V_{GS} = 0V$			-1.2	V
Reverse Recovery Time	t_{rr}	$I_F = -5A, di_F/dt = 100A / \mu S$		15.5		nS
Reverse Recovery Charge	Q_{rr}			7.9		nC

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

²Independent of operating temperature.

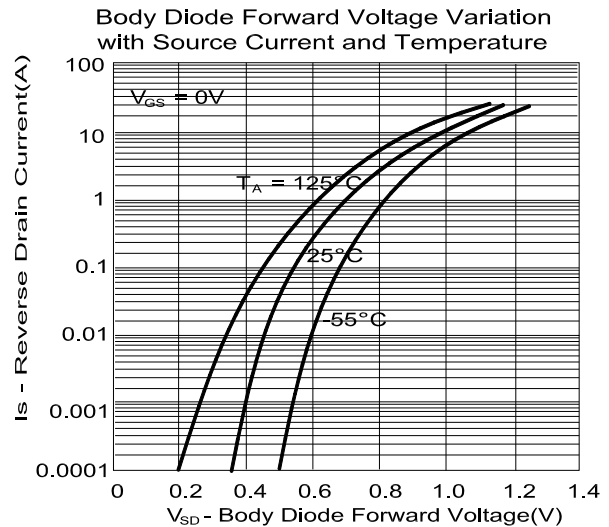
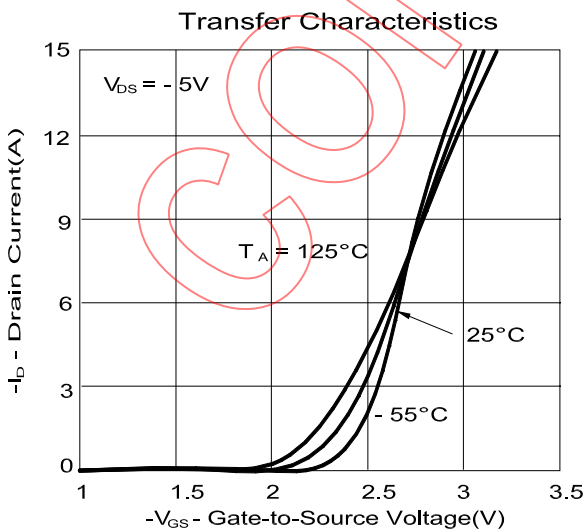
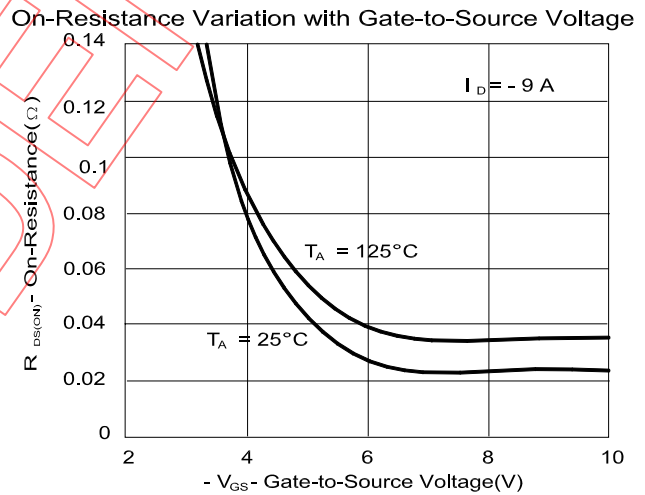
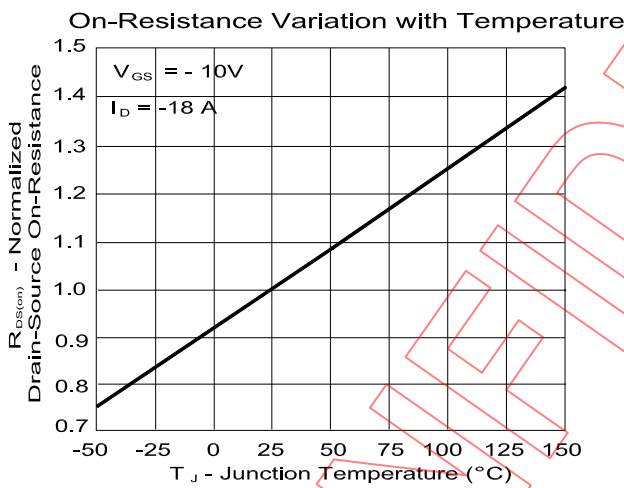
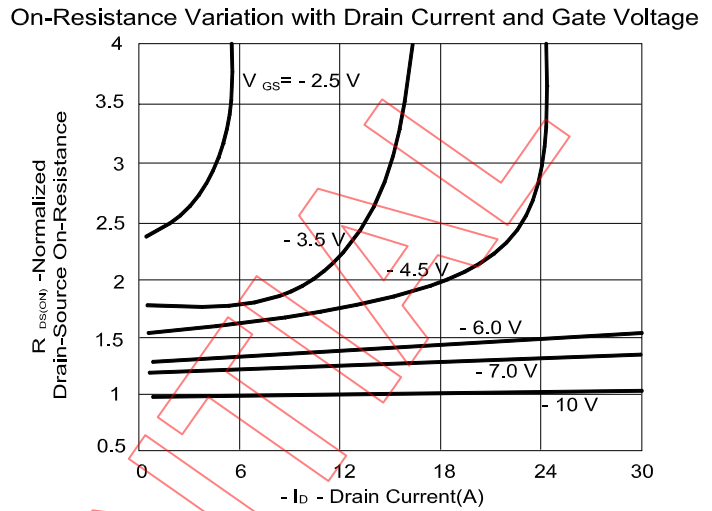
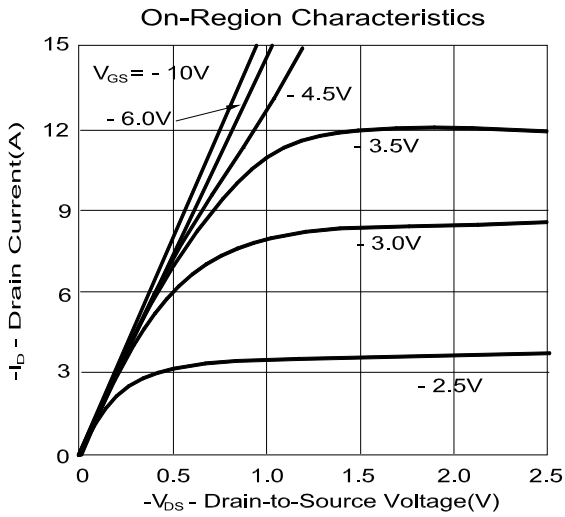
³Pulse width limited by maximum junction temperature.

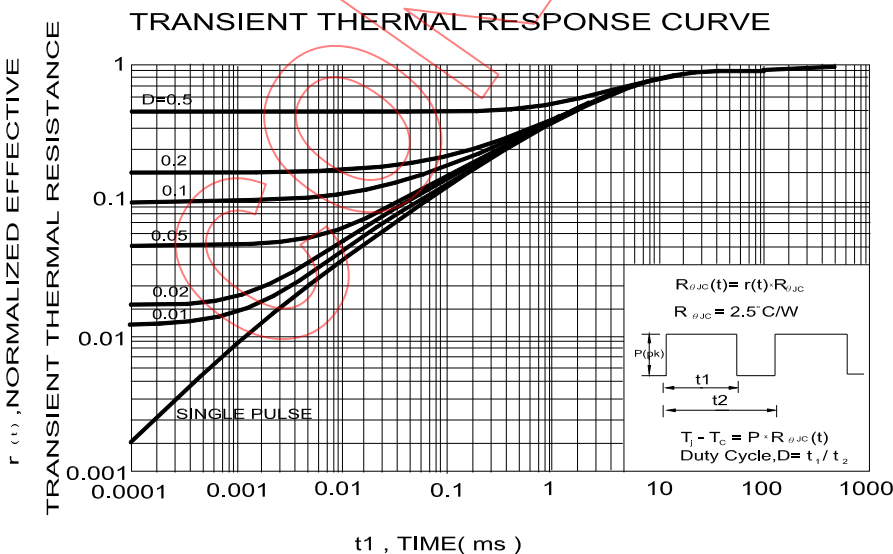
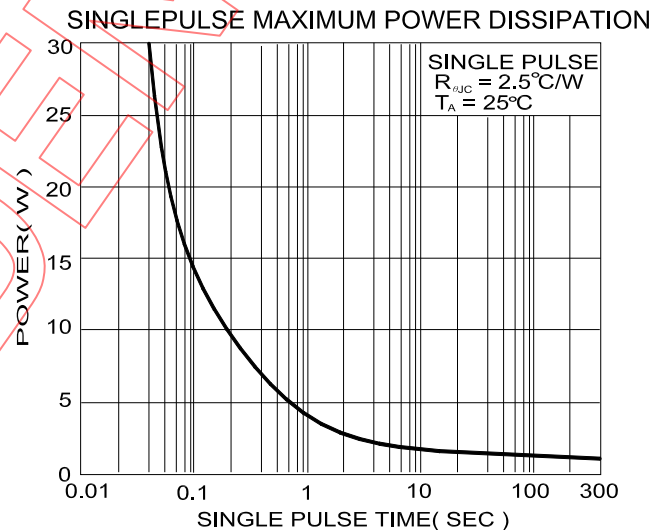
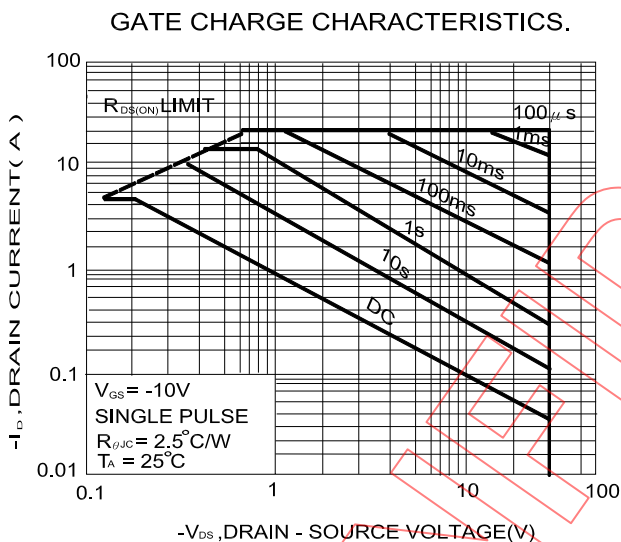
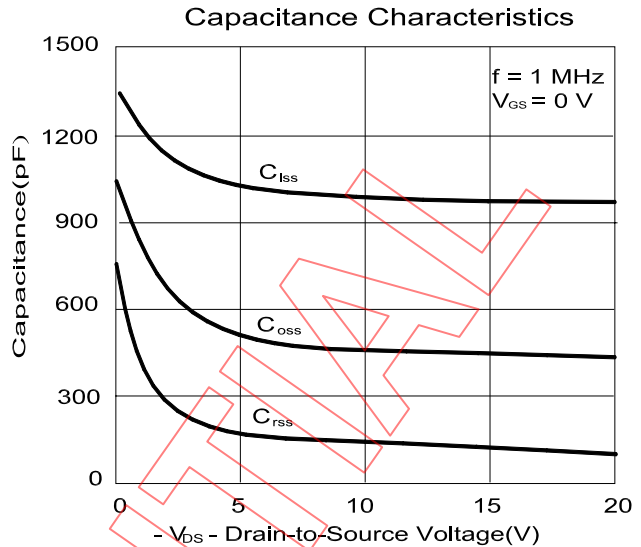
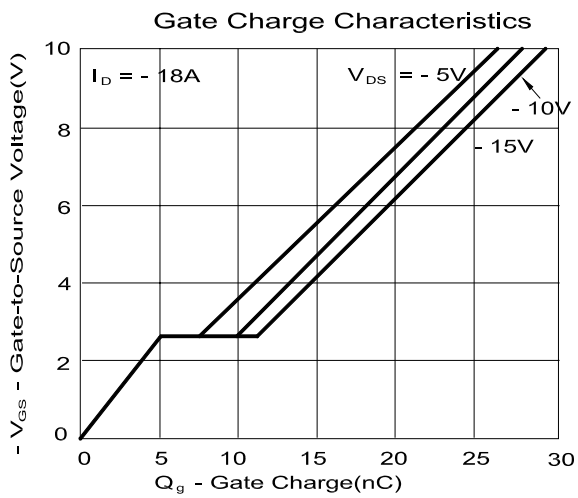
REMARK: THE PRODUCT MARKED WITH "P3003EDG", DATE CODE or LOT #

Orders for parts with Lead-Free plating can be placed using the PXXXXXXXG parts name

CONFIDENTIAL

Typical Characteristics





TO-252 (DPAK) MECHANICAL DATA

Dimension	mm			Dimension	mm		
	Min.	Typ.	Max.		Min.	Typ.	Max.
A	8.90		10.42	H	0.80	1.4	1.70
B	2.20	2.3	2.44	I	6.35	6.5	6.80
C	0.45	0.5	0.60	J	4.80	5.0	5.50
D	0.89	1.2	1.50	K	0.50	0.8	1.50
E	0.35	0.5	0.65	L	0.40	0.6	0.89
F	0		0.23	M	4.10	4.6	5.10
G	5.20	5.5	6.22	N			

