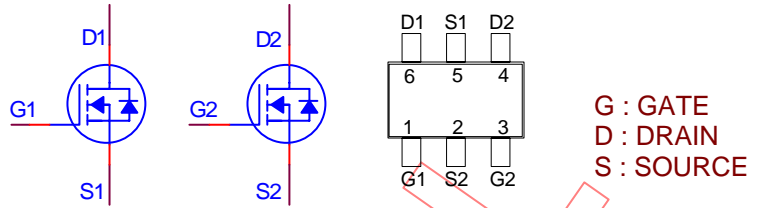


PRODUCT SUMMARY

$V_{(BR)DSS}$	$R_{DS(ON)}$	I_D
30	75m	3.5A



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}	± 12	V
Continuous Drain Current	$T_C = 25\text{ }^\circ\text{C}$	I_D	3.5	A
	$T_C = 70\text{ }^\circ\text{C}$		2.8	
Pulsed Drain Current ¹		I_{DM}	15	
Power Dissipation	$T_C = 25\text{ }^\circ\text{C}$	P_D	1.15	W
	$T_C = 70\text{ }^\circ\text{C}$		0.73	
Junction & Storage Temperature Range		T_j, T_{stg}	-55 to 150	$^\circ\text{C}$
Lead Temperature (¹ / ₁₆ " from case for 10 sec.)		T_L	275	

THERMAL RESISTANCE RATINGS

THERMAL RESISTANCE		SYMBOL	TYPICAL	MAXIMUM	UNITS
Junction-to-Ambient	t 10sec	$R_{\theta JA}$		110	$^\circ\text{C} / \text{W}$
Junction-to-Ambient	Steady State	$R_{\theta JA}$		150	$^\circ\text{C} / \text{W}$
Junction-to-Lead	Steady State	$R_{\theta JL}$		80	$^\circ\text{C} / \text{W}$

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	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu\text{A}$	0.6	1.0	1.4	
Gate-Body Leakage	I_{GSS}	$V_{DS} = 0V, V_{GS} = \pm 12V$			± 100	nA
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = 24V, V_{GS} = 0V$			1	μA
		$V_{DS} = 20V, V_{GS} = 0V, T_J = 55\text{ }^\circ\text{C}$			10	
On-State Drain Current ¹	$I_{D(ON)}$	$V_{DS} = 5V, V_{GS} = 4.5V$	15			A

Drain-Source Resistance ¹	On-State	$R_{DS(ON)}$	$V_{GS} = 2.5V, I_D = 2A$	100	115	m
			$V_{GS} = 4.5V, I_D = 3A$	65	75	
			$V_{GS} = 10V, I_D = 3.5A$	55	60	
Forward Transconductance ¹		g_{fs}	$V_{DS} = 5V, I_D = 3.5A$	4.5		S
DYNAMIC						
Input Capacitance		C_{iss}	$V_{GS} = 0V, V_{DS} = 15V, f = 1MHz$	390		pF
Output Capacitance		C_{oss}		55		
Reverse Transfer Capacitance		C_{rss}		40		
Total Gate Charge ²		Q_g	$V_{DS} = 0.5V_{(BR)DSS}, V_{GS} = 4.5V, I_D = 3.5A$	5.0		nC
Gate-Source Charge ²		Q_{gs}		0.8		
Gate-Drain Charge ²		Q_{gd}		1.7		
Turn-On Delay Time ²		$t_{d(on)}$	$V_{DS} = 15V, I_D = 1A, V_{GS} = 10V, R_{GEN} = 6$	7		nS
Rise Time ²		t_r		4		
Turn-Off Delay Time ²		$t_{d(off)}$		36		
Fall Time ²		t_f		14		
SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS ($T_c = 25^\circ C$)						
Forward Voltage ¹		V_{SD}	$I_F = 0.8A, V_{GS} = 0V$		1.2	V
Reverse Recovery Time		t_{rr}	$I_F = 0.8A, di_F/dt = 100A / \mu S$	40	80	nS

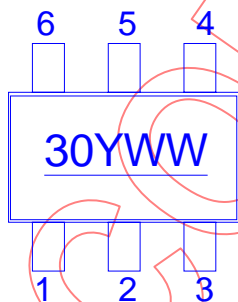
¹Pulse test : Pulse Width $\leq 300 \mu sec$, Duty Cycle $\leq 2\%$.

²Independent of operating temperature.

³Pulse width limited by maximum junction temperature.

REMARK: THIS PRODUCT MARKED WITH "30YWW"

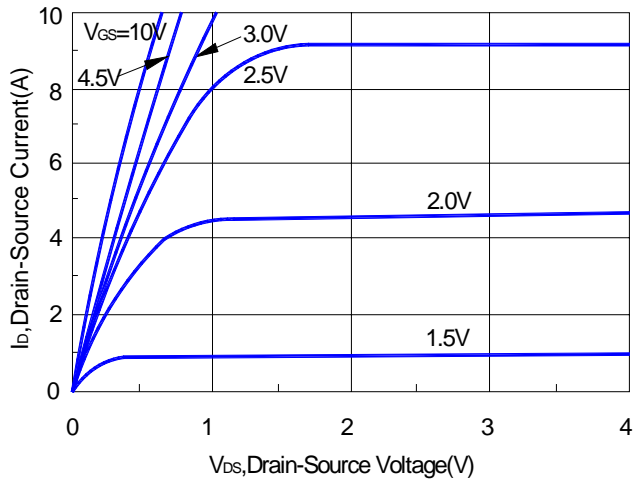
Orders for parts with Lead-Free plating can be placed using the PXXXXXXG parts name.



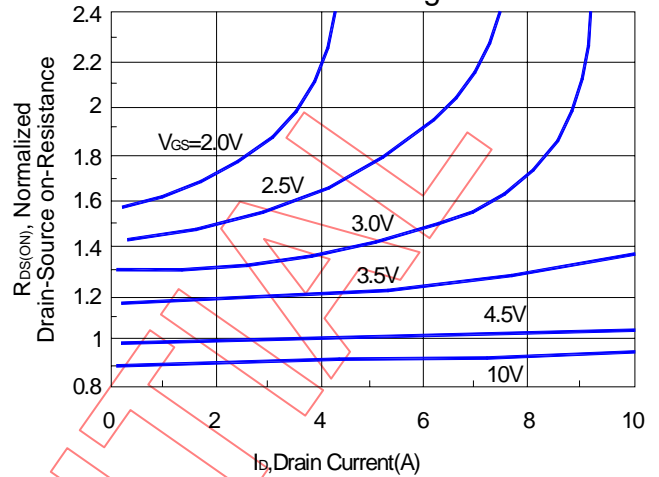
Marking Description:

- 3 – Dual N MOSFET
- 0 - Serial Number
- Y - Year
- W - Week

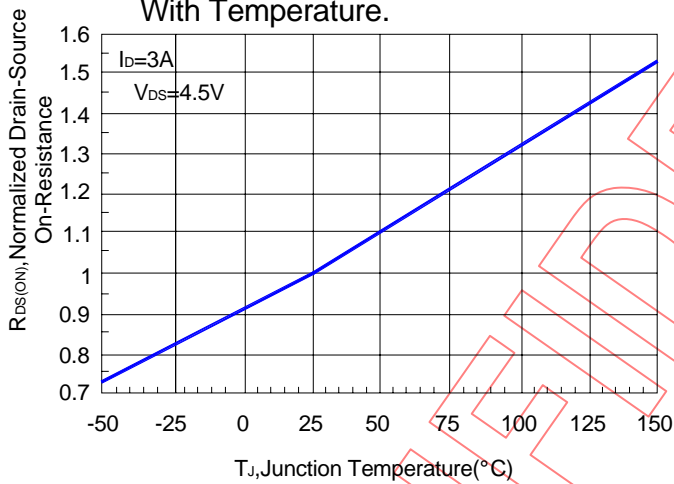
On-Region Characteristics.



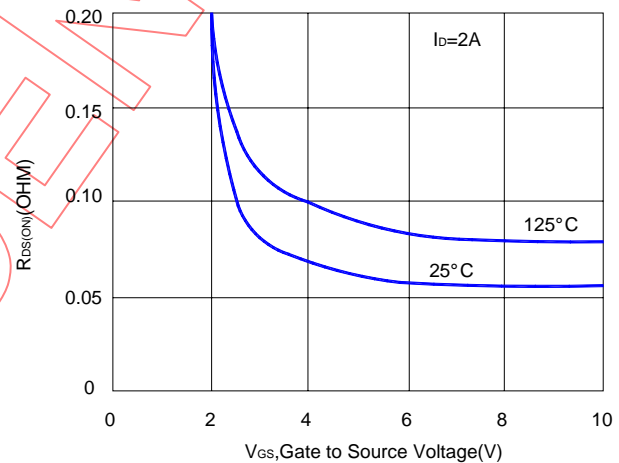
On-Resistance Variation With Drain Current and Gate Voltage.



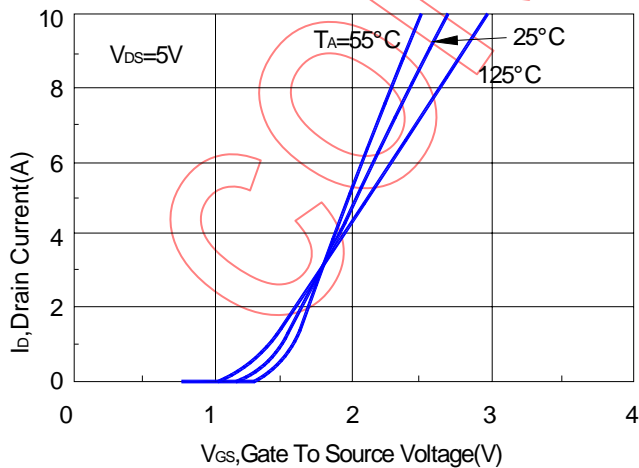
On-Resistance Variation With Temperature.



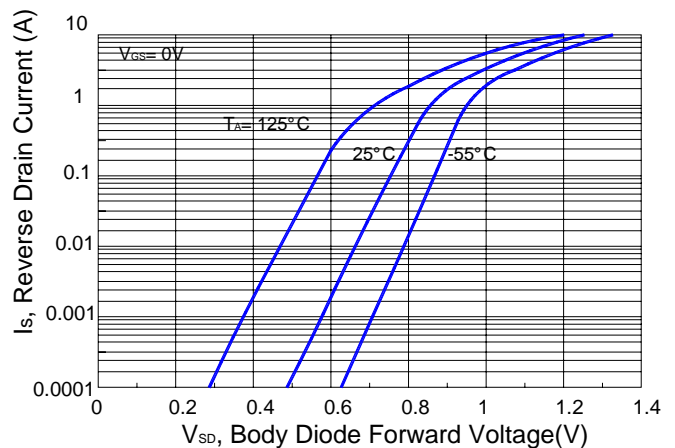
On-Resistance Variation vs. Gate-Source Voltage.



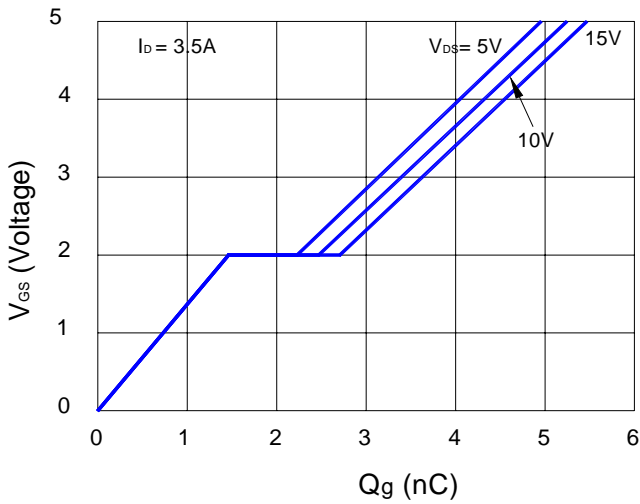
Transfer Characteristics.



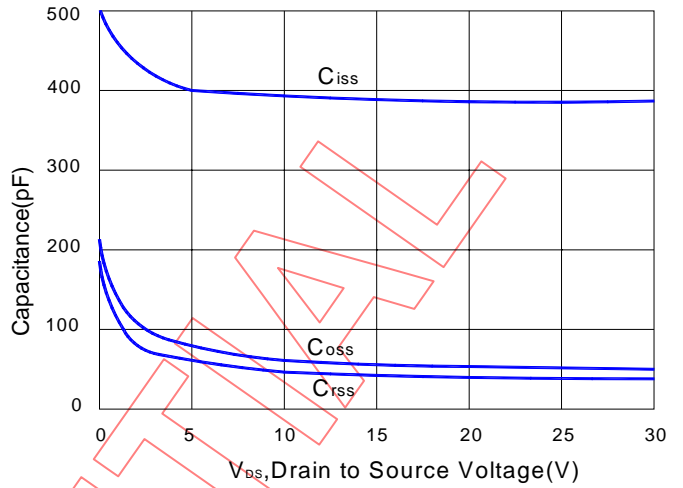
Body Diode Forward Voltage Variation with Source Current and Temperature.



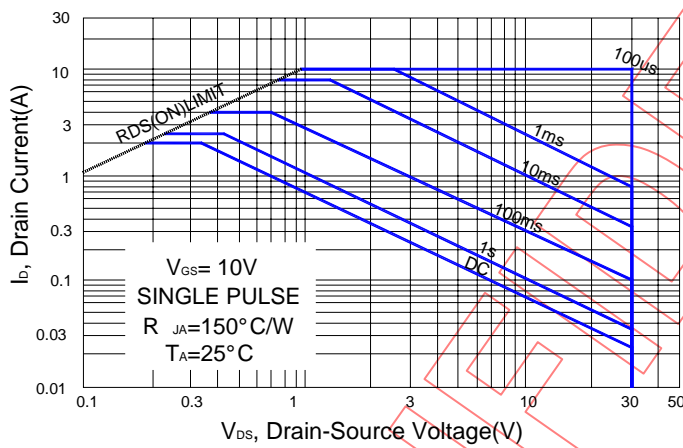
Gate-Charge Characteristics



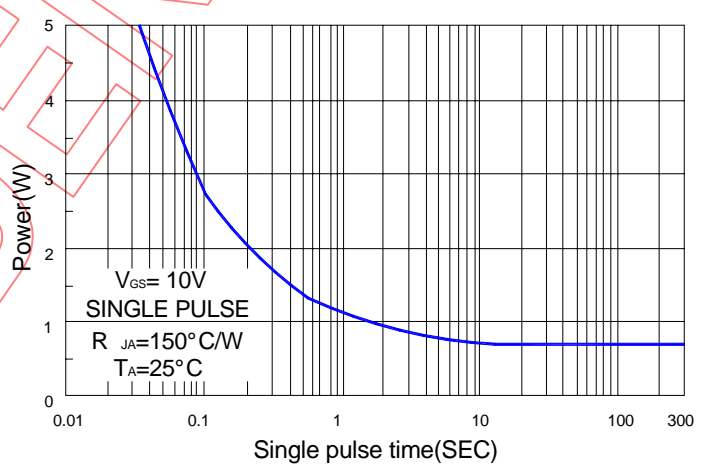
Capacitance Characteristics



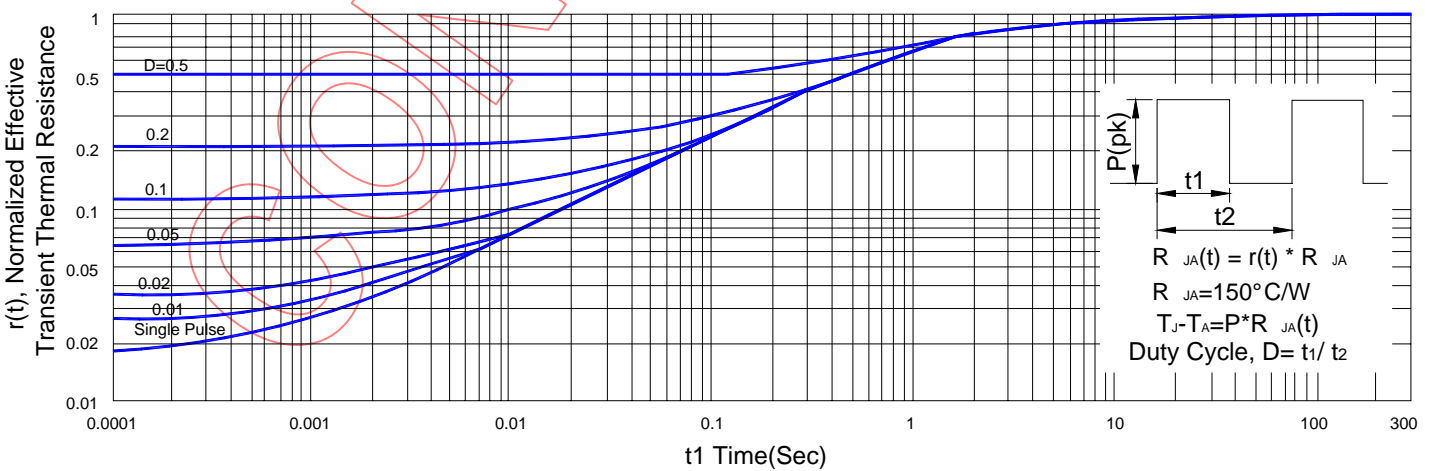
Maximum Safe Operating Area.



Single Pulse Maximum Power Dissipation.



Transient Thermal Response Curve.



TSOP- 6 MECHANICAL DATA

Dimension	mm			Dimension	mm		
	Min.	Typ.	Max.		Min.	Typ.	Max.
A		0.95		H	0.08	0.13	0.2
B	2.5	2.8	3.1	I	0.3		0.6
C	1.5	1.6	1.7	J			
D	2.7	2.9	3.1	K			
E	0.7		1.2	L			
F	0		0.15	M			
G	0.3	0.4	0.5	N			

