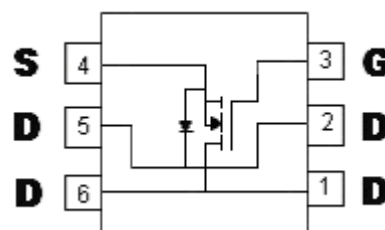
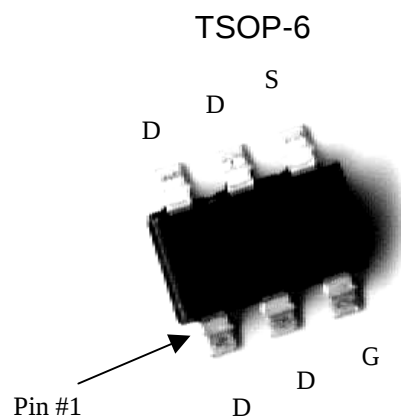


N-Channel Enhancement Mode Power MOSFET

Features:

- Simple drive requirement
- Low on-resistance
- Small package outline
- Pb-free lead plating and halogen-free package



Ordering Information

Device	Package	Shipping
KTN2604	TSOP-6 (Pb-free lead plating and halogen-free package)	3000 pcs / tape & reel

Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Drain-Source Voltage	V _{DS}	30	V
Gate-Source Voltage	V _{GS}	±20	
Continuous Drain Current @ V _{GS} =4.5V, T _A =25 °C (Note 1)	I _D	7	A
Continuous Drain Current @ V _{GS} =4.5V, T _A =100 °C (Note 1)	I _D	4.4	
Pulsed Drain Current (Note 2, 3)	I _{DM}	20	
Total Power Dissipation @ T _A =25 °C	P _d	2	W
Linear Derating Factor		0.016	W / °C
Operating Junction and Storage Temperature Range	T _j ; T _{stg}	-55~+150	°C
Thermal Resistance, Junction-to-Ambient (Note 1)	R _{th,ja}	62.5	°C/W

Note : 1.Surface mounted on 1 in² copper pad of FR-4 board. 156°C/W when mounted on minimum copper pad.

2.Pulse width limited by maximum junction temperature.

3.Pulse Width ≤300μs, Duty Cycle≤2%

Electrical Characteristics (T_j=25°C, unless otherwise noted)

Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Static					
BV _{DSS}	30	-	-	V	V _{GS} =0V, I _D =250μA
ΔBV _{DSS} /ΔT _j	-	0.02	-	V/°C	Reference to 25°C, I _D =250μA
V _{GS(th)}	1	-	3	V	V _{DS} =V _{GS} , I _D =250μA
I _{GSS}	-	-	±100	nA	V _{GS} =±20V, V _{DS} =0V
I _{DSS}	-	-	1	μA	V _{DS} =24V, V _{GS} =0V, T _j =25°C
	-	-	25		V _{DS} =24V, V _{GS} =0V, T _j =70°C
*R _{DS(ON)}	-	19	27	mΩ	I _D =7A, V _{GS} =10V
	-	26	40		I _D =5A, V _{GS} =4.5V
*G _{FSS}	-	8	-	S	V _{DS} =5V, I _D =7A
Dynamic					
C _{iss}	-	745	-	pF	V _{DS} =25V, V _{GS} =0, f=1MHz
C _{oss}	-	51	-		
C _{rss}	-	58	-		
t _{d(ON)}	-	5	-	ns	V _{DS} =15V, I _D =1A, V _{GS} =10V, R _G =3.3Ω
t _r	-	8	-		
t _{d(OFF)}	-	18	-		
t _f	-	4	-		
Q _g	-	7	-	nC	V _{DS} =24V, I _D =4.8A, V _{GS} =4.5V
Q _{gs}	-	2.3	-		
Q _{gd}	-	2.7	-		

*Pulse Test : Pulse Width ≤300μs, Duty Cycle≤2%

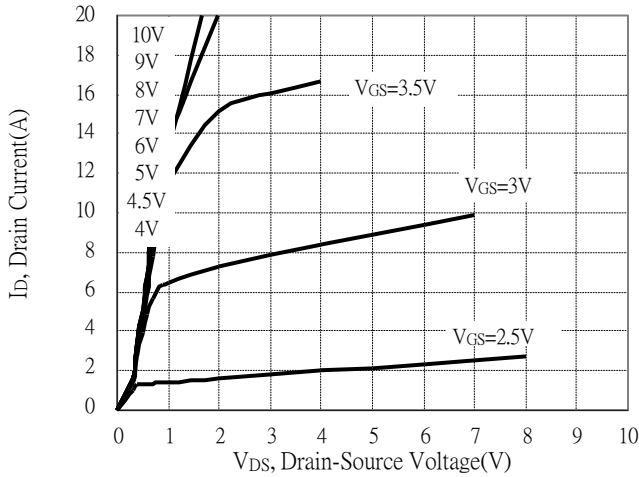
Source Drain Diode

Symbol	Min.	Typ.	Max.	Unit	Test Conditions
*V _{SD}	-	0.84	1.2	V	I _S =4.8A, V _{GS} =0V
*T _{rr}	-	15	-	ns	I _S =4.8A, V _{GS} =0V, dI/dt=100A/μs
Q _{rr}	-	7	-	nC	

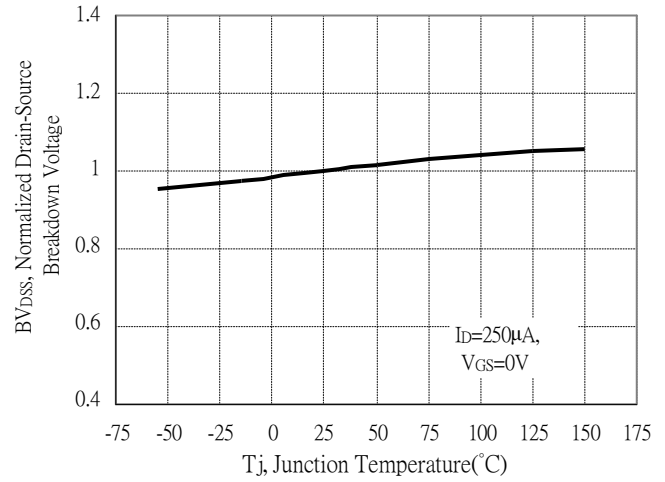
*Pulse Test : Pulse Width ≤300μs, Duty Cycle≤2%

Typical Characteristics

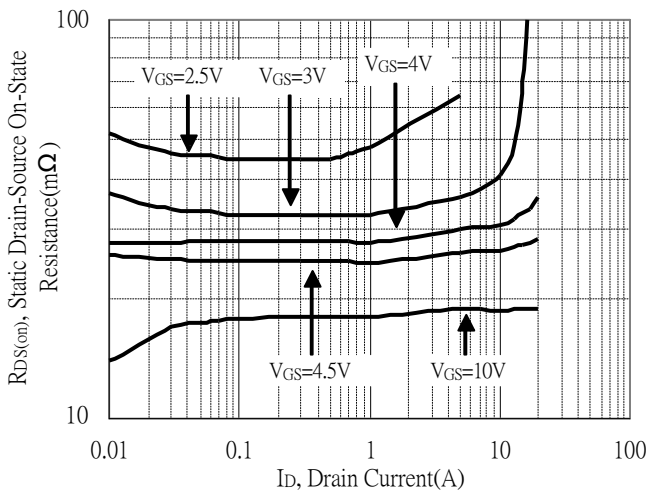
Typical Output Characteristics



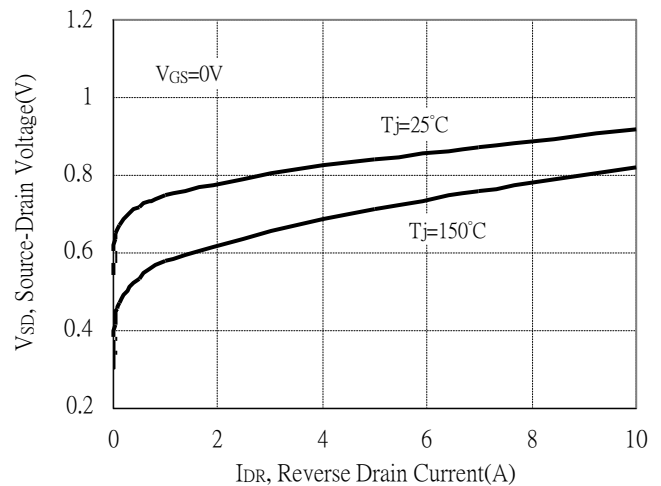
Breakdown Voltage vs Ambient Temperature



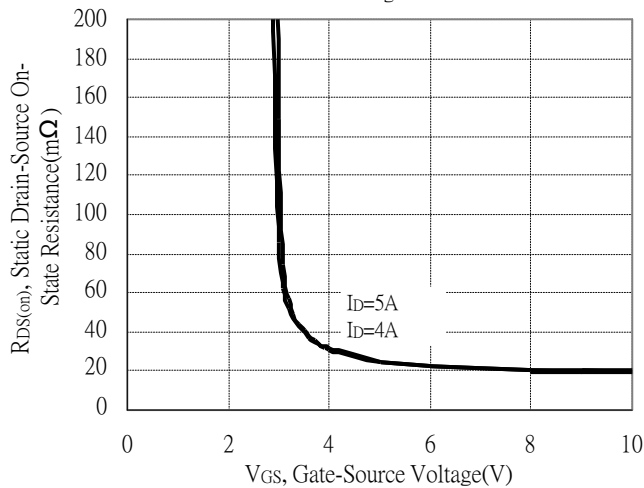
Static Drain-Source On-State resistance vs Drain Current



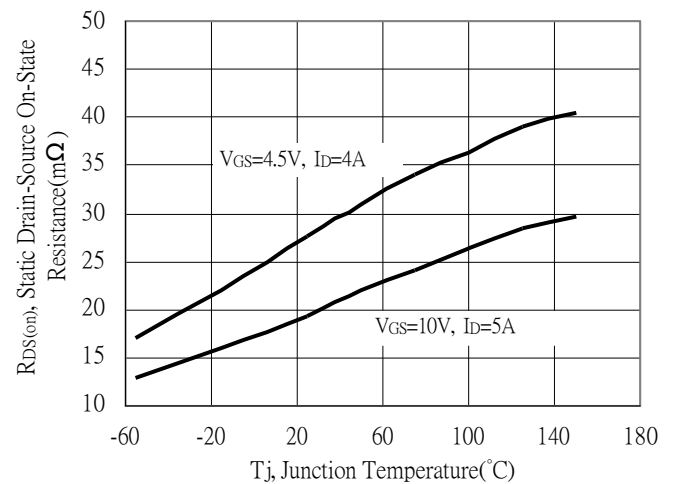
Reverse Drain Current vs Source-Drain Voltage



Static Drain-Source On-State Resistance vs Gate-Source Voltage

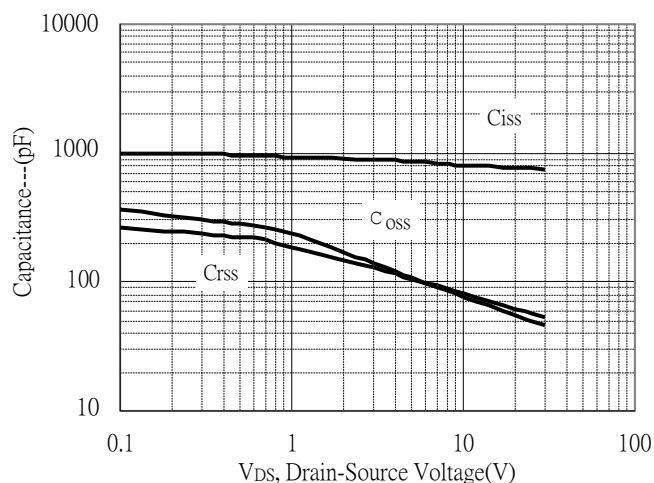


Drain-Source On-State Resistance vs Junction Temperature

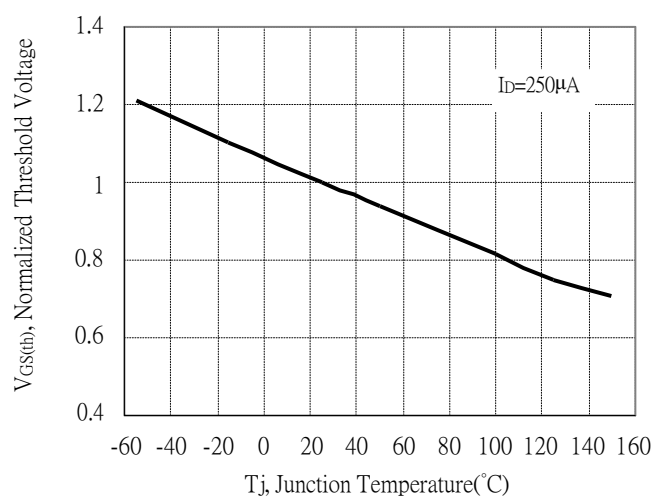


Typical Characteristics (Cont.)

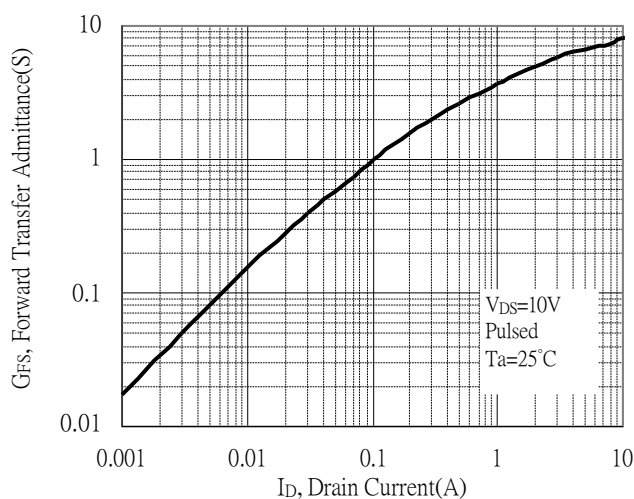
Capacitance vs Drain-to-Source Voltage



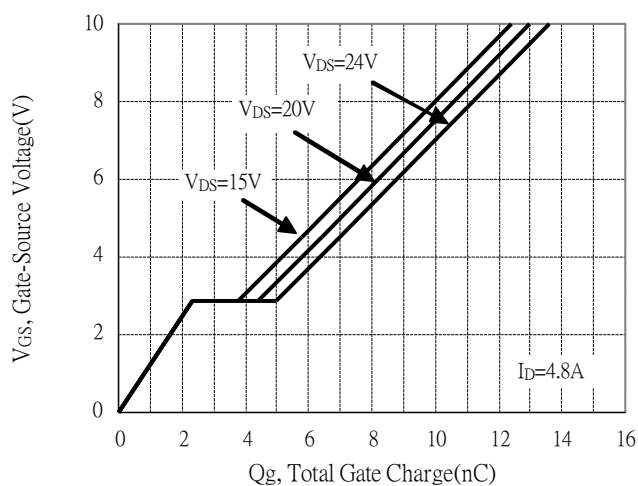
Threshold Voltage vs Junction Temperature



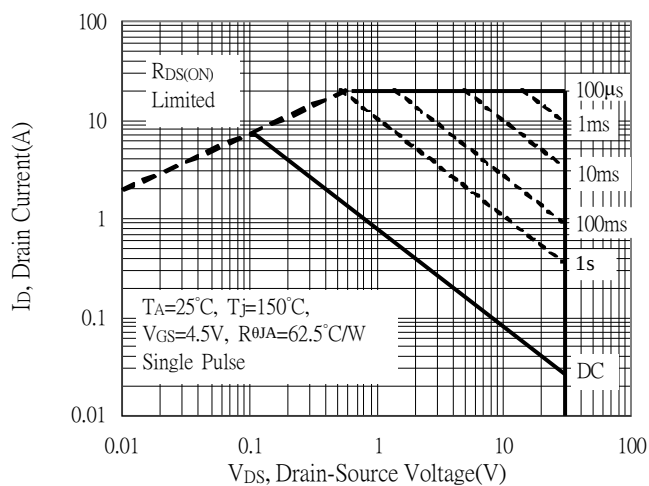
Forward Transfer Admittance vs Drain Current



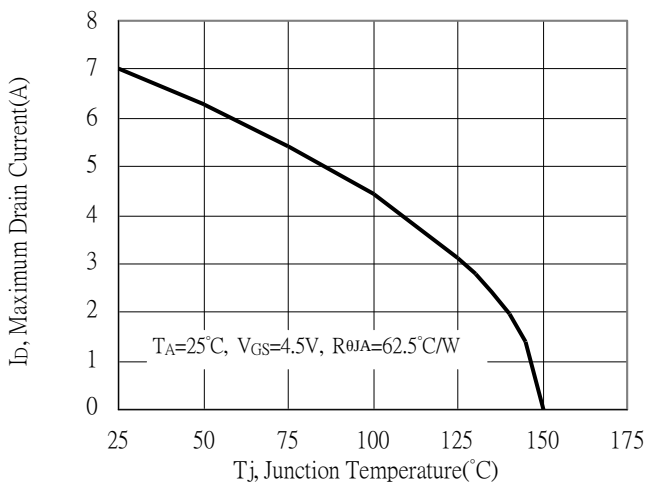
Gate Charge Characteristics



Maximum Safe Operating Area

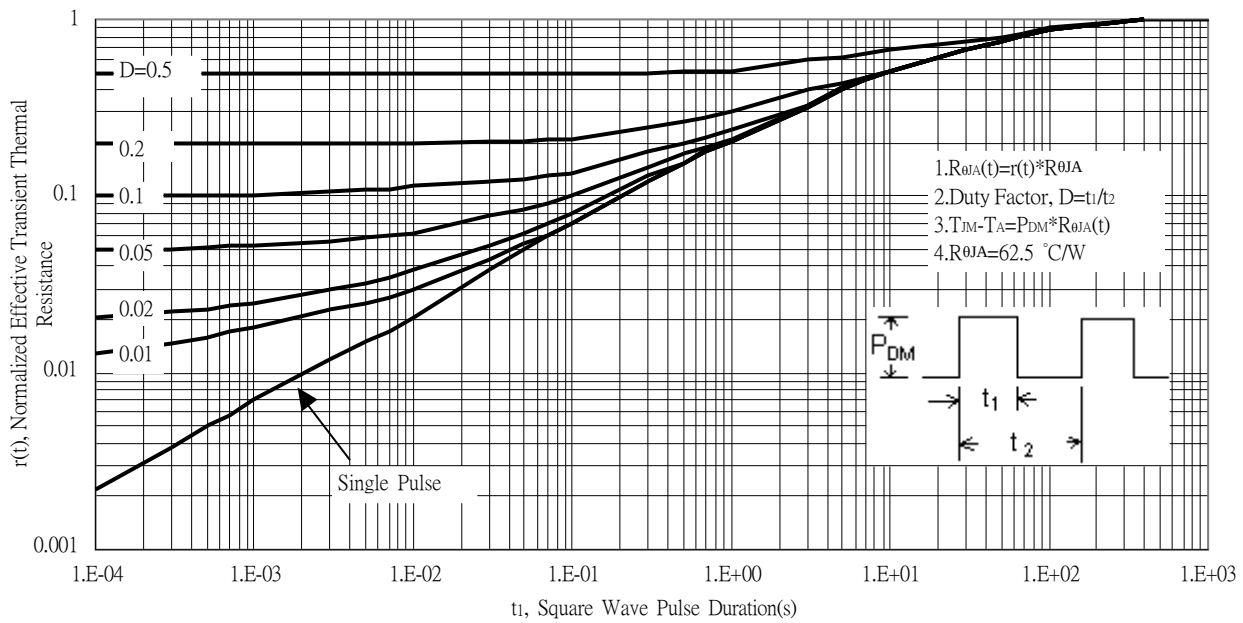


Maximum Drain Current vs Junction Temperature

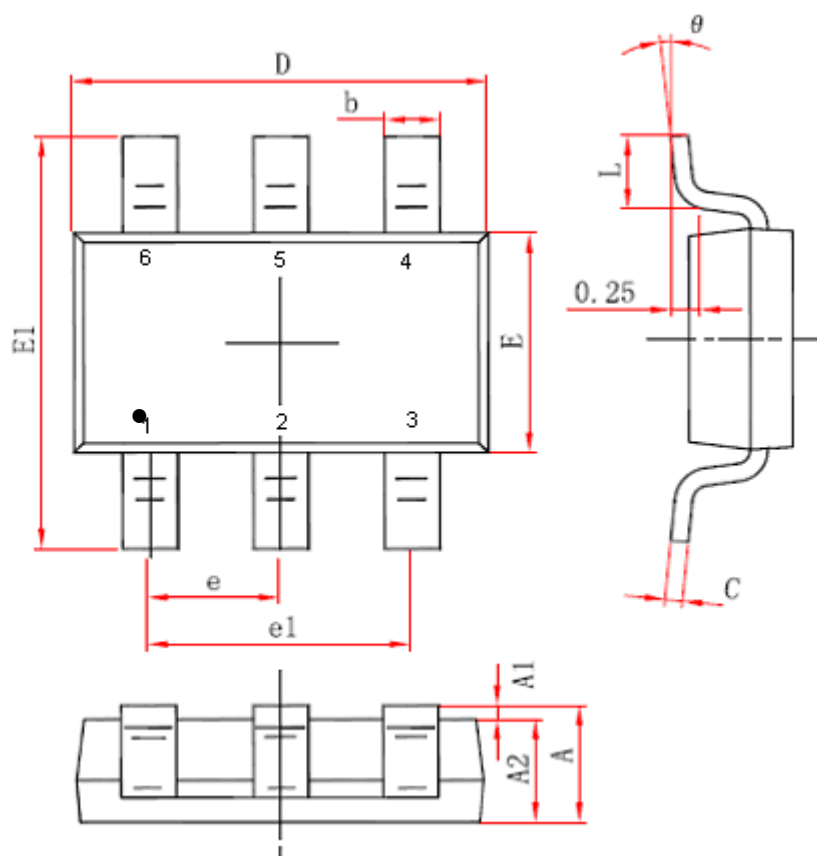


Typical Characteristics (Cont.)

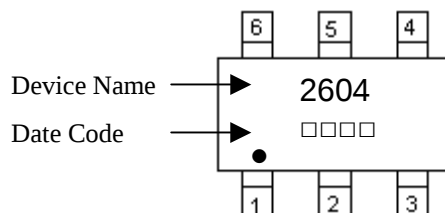
Transient Thermal Response Curves



TSOP-6 Dimension



Marking:



Style:

- Pin 1. Drain (D)
- Pin 2. Drain (D)
- Pin 3. Gate (G)
- Pin 4. Source (S)
- Pin 5. Drain (D)
- Pin 6. Drain (D)

6-Lead TSOP-6 Plastic
Surface Mounted Package

DIM	Millimeters		Inches		DIM	Millimeters		Inches	
	Min.	Max.	Min.	Max.		Min.	Max.	Min.	Max.
A	0.700	0.900	0.028	0.035	E	1.600	1.700	0.063	0.067
A1	0.000	0.100	0.000	0.004	E1	2.650	2.950	0.104	0.116
A2	0.700	0.800	0.028	0.031	e	0.95 (BSC)		0.037 (BSC)	
b	0.350	0.500	0.014	0.020	e1	1.90 (BSC)		0.075 (BSC)	
c	0.080	0.200	0.003	0.008	L	0.300	0.600	0.012	0.024
D	2.820	3.020	0.111	0.119	θ	0°	8°	0°	8°