

**Features**

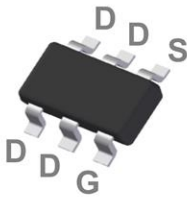
BV <sub>DSS</sub>	150V
I <sub>D</sub> @V <sub>GS</sub> =10V, T <sub>A</sub> =25°C	1.5A
R <sub>DS(ON)</sub> typ. @V <sub>GS</sub> =10V, I <sub>D</sub> =1.5A	240mΩ

**Application**

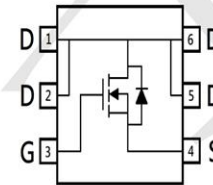
- Notebook
- Load Switch
- Networking
- Hand-held Instruments

**Package and Pin Configuration**

SOT23-6



**Circuit diagram**



G: Gate S: Source D: Drain

**Marking:252P**

**Absolute Maximum Ratings (T<sub>A</sub>=25°C)**

Parameter	Symbol	Limits	Unit
Drain-Source Voltage	V <sub>DS</sub>	150	V
Gate-Source Voltage	V <sub>GS</sub>	±20	
Continuous Drain Current @ V <sub>GS</sub> =10V, T <sub>A</sub> =25°C	I <sub>D</sub>	1.5	A
Continuous Drain Current @ V <sub>GS</sub> =10V, T <sub>A</sub> =70°C		1.2	
Pulsed Drain Current		6	
Continuous Body Diode Forward Current @ T <sub>A</sub> =25°C	I <sub>S</sub>	1.3	
Total Power Dissipation	T <sub>A</sub> =25°C	1.6	W
	T <sub>A</sub> =70°C	1	
Operating Junction and Storage Temperature Range	T <sub>J</sub> , T <sub>stg</sub>	-55~+150	°C

**Thermal Data**

Parameter	Symbol	Steady State	Unit
Thermal Resistance, Junction-to-ambient	R <sub>θJA</sub>	80	°C/W

**Electrical Characteristics (T<sub>A</sub>=25°C, unless otherwise specified)**

Symbol	Min.	Typ.	Max.	Unit	Test Conditions
<b>Static</b>					
BV <sub>DSS</sub>	150	-	-	V	V <sub>GS</sub> =0V, I <sub>D</sub> =250μA
V <sub>GS(th)</sub>	1.5	-	3.5		V <sub>DS</sub> =V <sub>GS</sub> , I <sub>D</sub> =250μA
I <sub>GSS</sub>	-	-	±100	nA	V <sub>GS</sub> =±20V, V <sub>DS</sub> =0V
I <sub>DSS</sub>	-	-	1	μA	V <sub>DS</sub> =120V, V <sub>GS</sub> =0V
R <sub>DS(ON)</sub>	-	240	320	mΩ	V <sub>GS</sub> =10V, I <sub>D</sub> =1.5A
<b>Dynamic</b>					
C <sub>iss</sub>	-	250	-	pF	V <sub>DS</sub> =75V, V <sub>GS</sub> =0V, f=1MHz
C <sub>oss</sub>	-	25	-		
C <sub>rss</sub>	-	12	-		
R <sub>g</sub>	-	2	-	Ω	f=1MHz
Q <sub>g</sub> *1,2	-	6	-	nC	V <sub>DS</sub> =75V, I <sub>D</sub> =1A, V <sub>GS</sub> =10V
Q <sub>gs</sub> *1,2	-	1.5	-		
Q <sub>gd</sub> *1,2	-	1.8	-		
t <sub>d(ON)</sub> *1,2	-	6	-	ns	V <sub>DS</sub> =75V, I <sub>D</sub> =1A, V <sub>GS</sub> =10V, R <sub>GS</sub> =6Ω
t <sub>r</sub> *1,2	-	7	-		
t <sub>d(OFF)</sub> *1,2	-	13	-		
t <sub>f</sub> *1,2	-	6	-		
<b>Source-Drain Diode</b>					
V <sub>SD</sub> *1	-	0.8	1.2	V	I <sub>S</sub> =1A, V <sub>GS</sub> =0V
t <sub>rr</sub>	-	32	-	ns	I <sub>F</sub> =1A, dI <sub>F</sub> /dt=100A/μs
Q <sub>rr</sub>	-	46	-	nC	

Note:

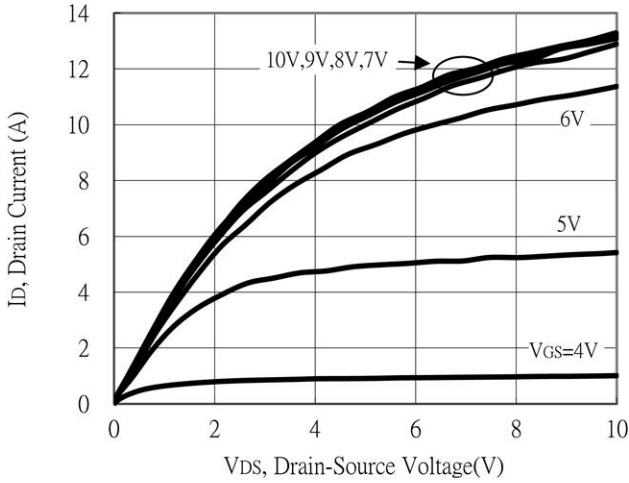
\*1. Pulse Test : Pulse Width ≤300μs, Duty Cycle ≤2%

\*2. Independent of operating temperature

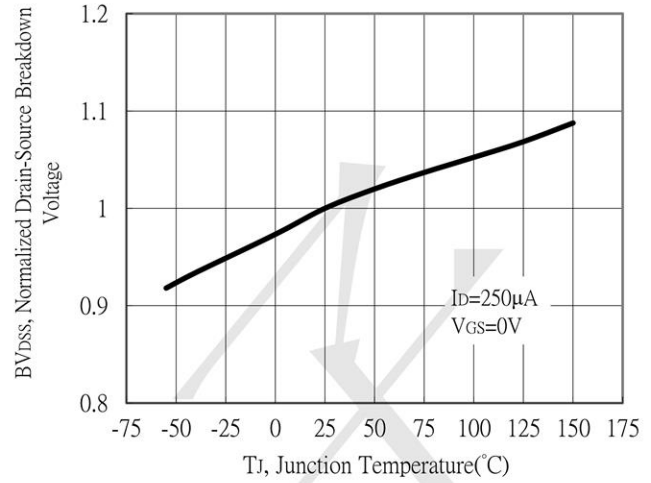


**Typical Electrical and Thermal Characteristics**

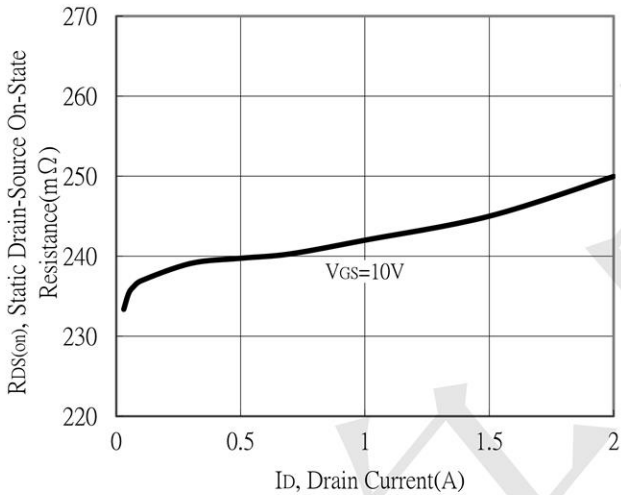
Typical Output Characteristics



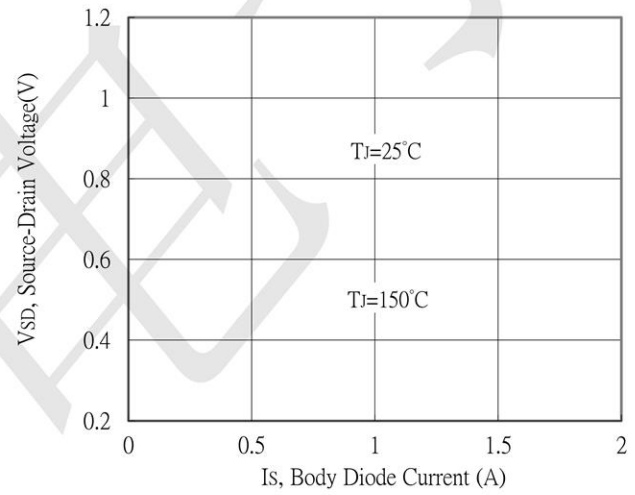
Breakdown Voltage vs Ambient Temperature



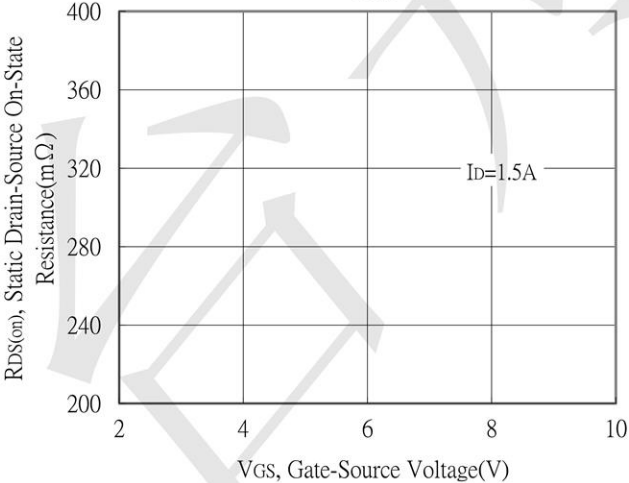
Static Drain-Source On-State resistance vs Drain Current



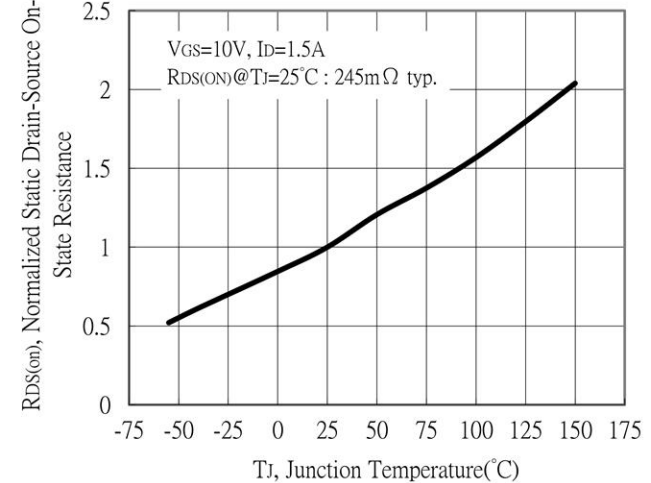
Body Diode Current vs Source-Drain Voltage

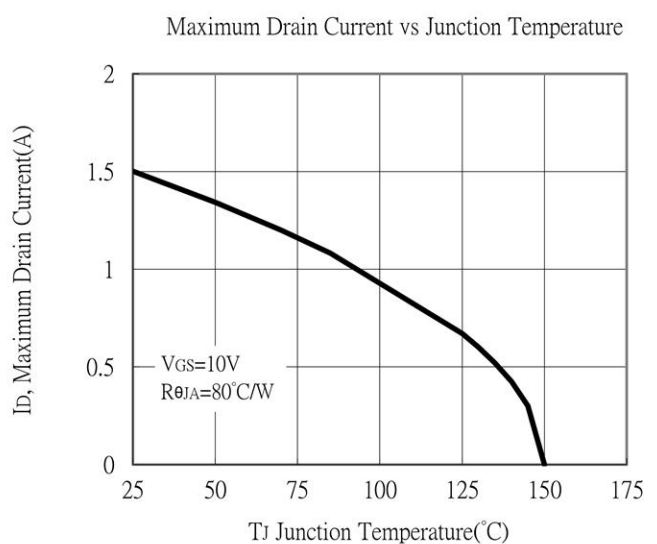
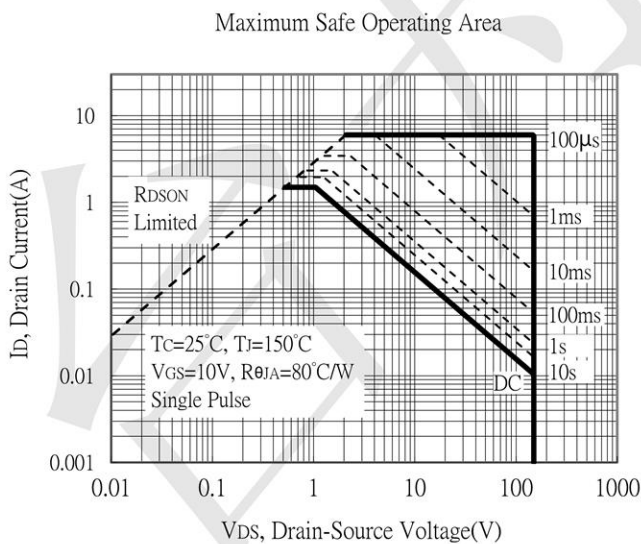
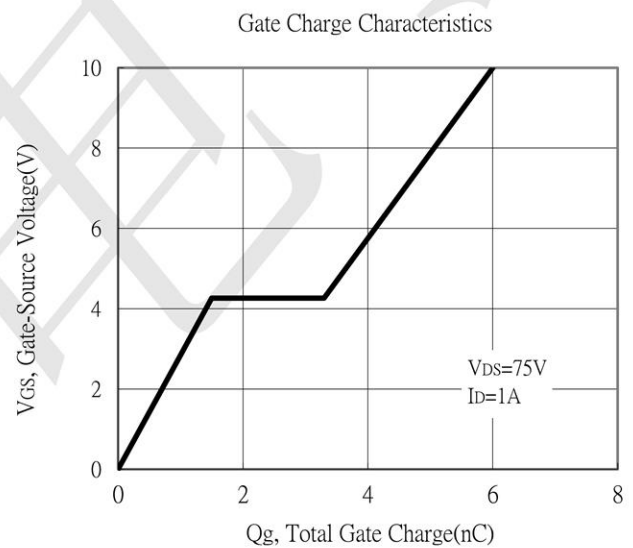
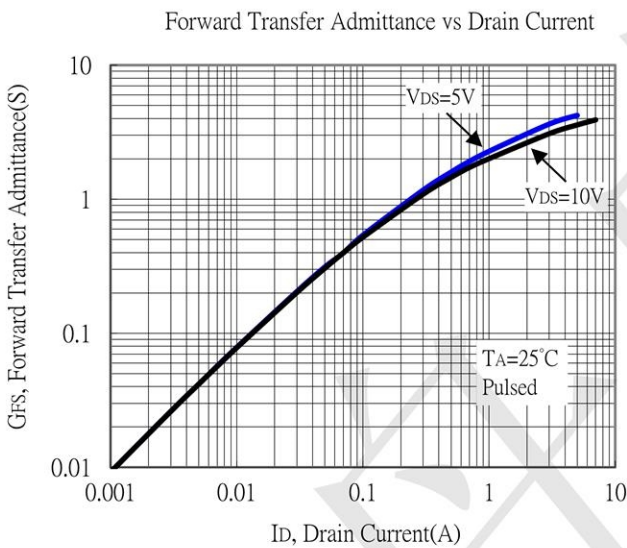
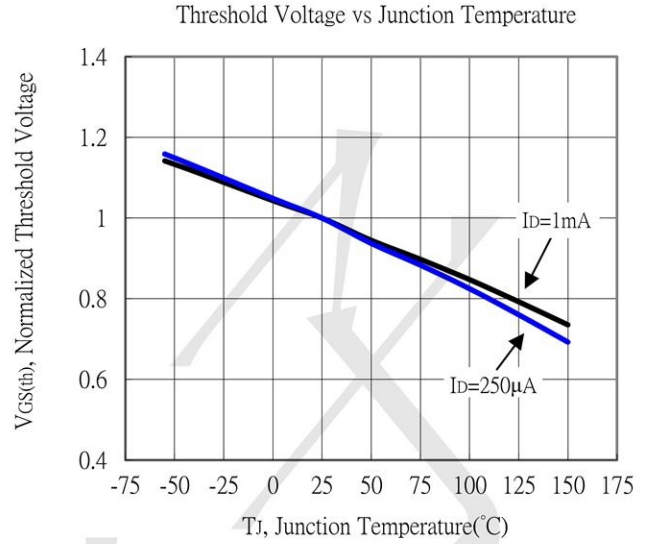
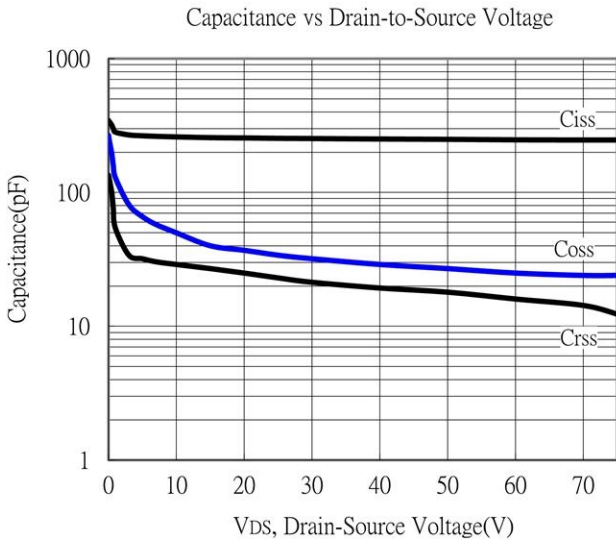


Static Drain-Source On-State Resistance vs Gate-Source Voltage



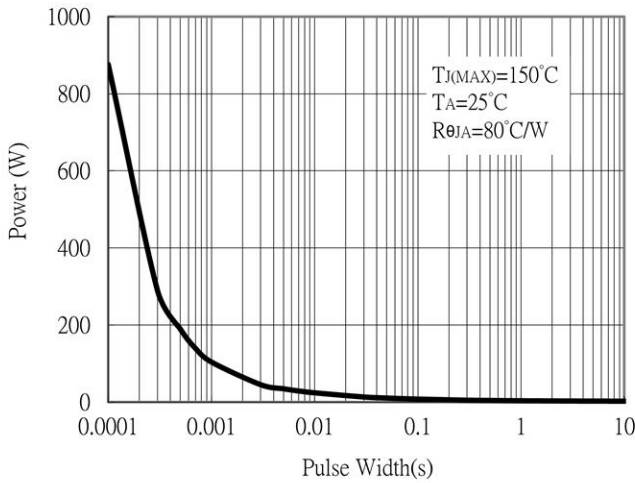
Drain-Source On-State Resistance vs Junction Temperature



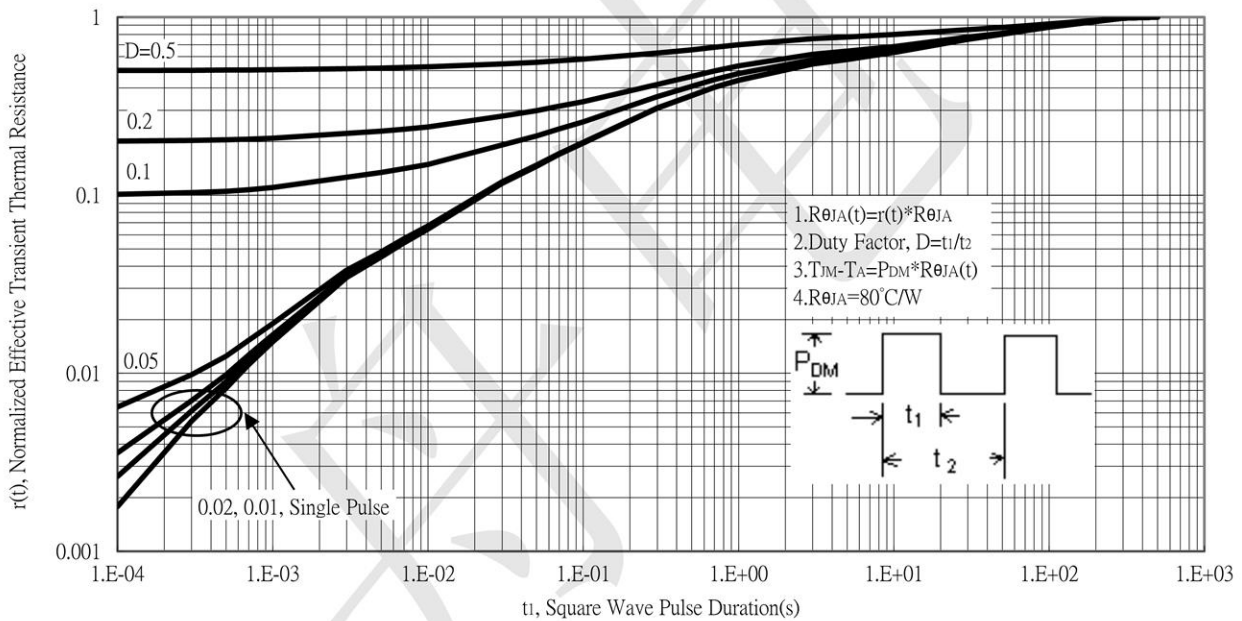


**Typical Characteristics (Cont.)**

Single Pulse Power Rating, Junction to Ambient

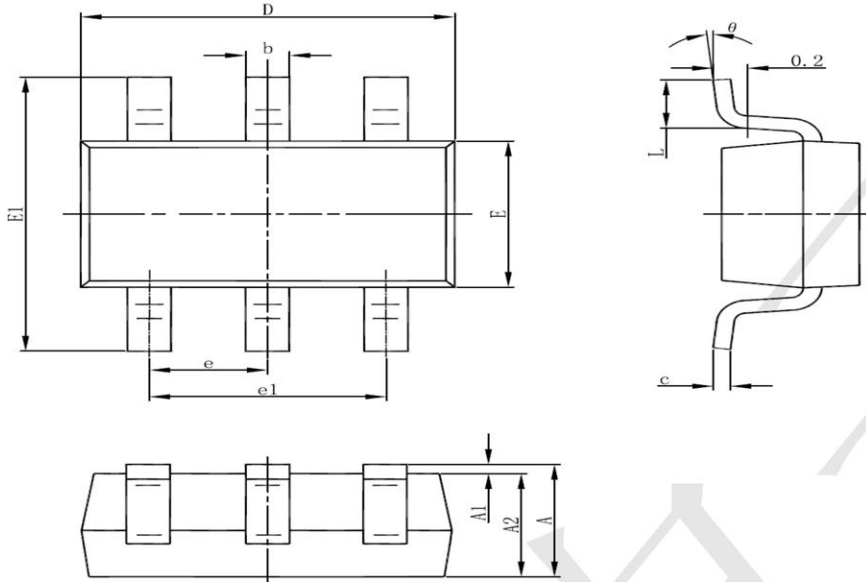


Transient Thermal Response Curves





SOT23-6 Package Information



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	1.050	1.250	0.041	0.049
A1	0.000	0.100	0.000	0.004
A2	1.050	1.150	0.041	0.045
b	0.300	0.500	0.012	0.020
c	0.100	0.200	0.004	0.008
D	2.820	3.020	0.111	0.119
E	1.500	1.700	0.059	0.067
E1	2.650	2.950	0.104	0.116
e	0.950(BSC)		0.037(BSC)	
e1	1.800	2.000	0.071	0.079
L	0.300	0.600	0.012	0.024
θ	0°	8°	0°	8°