

Features

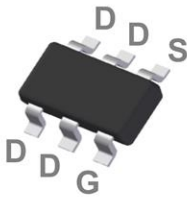
BV_{DSS}	150V
$I_D @ V_{GS}=10V, T_A=25^\circ C$	1.5A
$R_{DS(ON)}$ typ. @ $V_{GS}=10V, I_D=1.5A$	240m Ω

Application

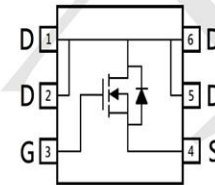
- Notebook
- Load Switch
- Networking
- Hand-held Instruments

Package and Pin Configuration

SOT23-6



Circuit diagram



G: Gate S: Source D: Drain

Marking:252P Or 40TPM

Absolute Maximum Ratings ($T_A=25^\circ C$)

Parameter	Symbol	Limits	Unit
Drain-Source Voltage	V_{DS}	150	V
Gate-Source Voltage	V_{GS}	± 20	
Continuous Drain Current @ $V_{GS}=10V, T_A=25^\circ C$	I_D	1.5	A
Continuous Drain Current @ $V_{GS}=10V, T_A=70^\circ C$		1.2	
Pulsed Drain Current		6	
Continuous Body Diode Forward Current @ $T_A=25^\circ C$	I_S	1.3	W
Total Power Dissipation	$T_A=25^\circ C$	1.6	
	$T_A=70^\circ C$	1	
Operating Junction and Storage Temperature Range	T_J, T_{stg}	-55~+150	$^\circ C$

Thermal Data

Parameter	Symbol	Steady State	Unit
Thermal Resistance, Junction-to-ambient	$R_{\theta JA}$	80	$^\circ C/W$

Electrical Characteristics (T_A=25°C, unless otherwise specified)

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

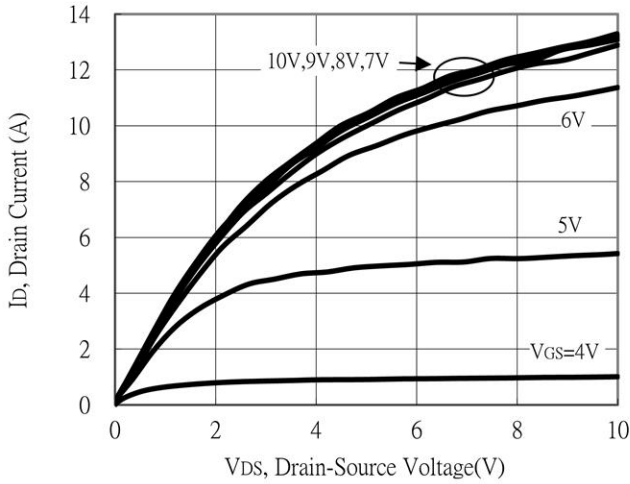
Note:

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

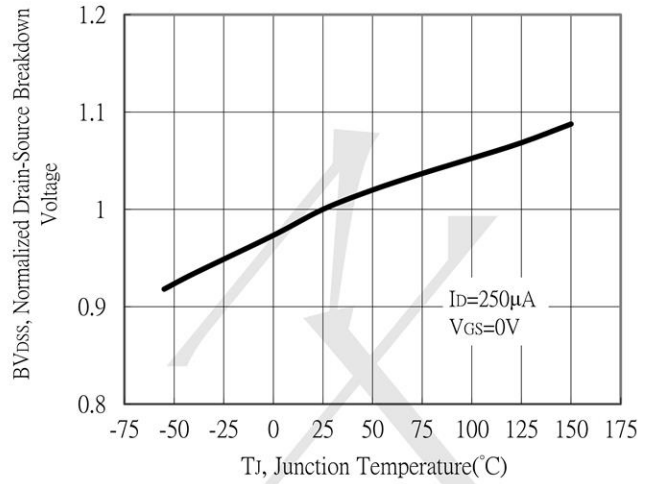
*2. Independent of operating temperature

Typical Electrical and Thermal Characteristics

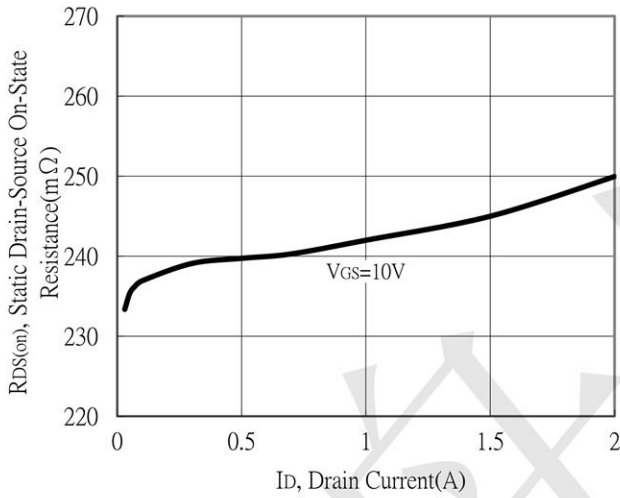
Typical Output Characteristics



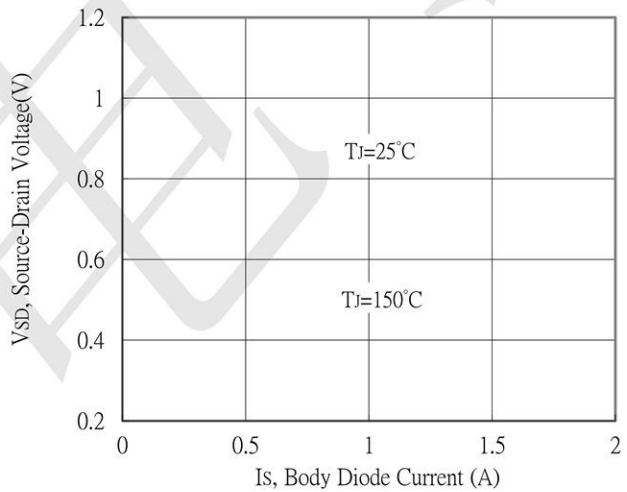
Breakdown Voltage vs Ambient Temperature



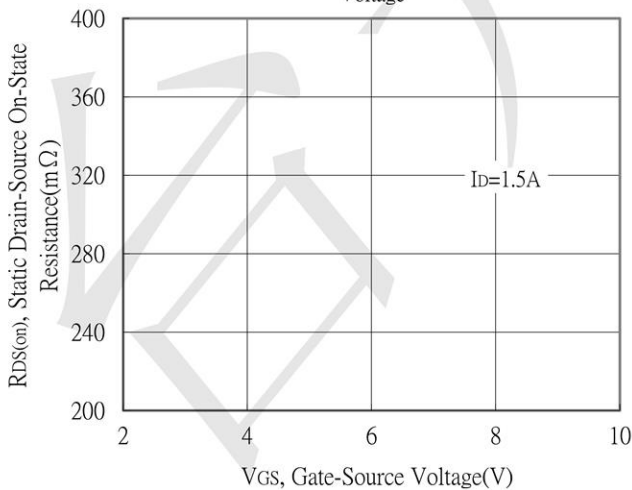
Static Drain-Source On-State resistance vs Drain Current



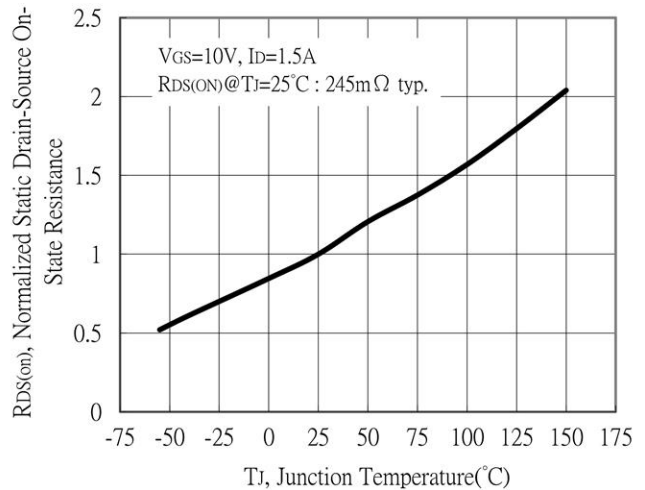
Body Diode Current vs Source-Drain Voltage

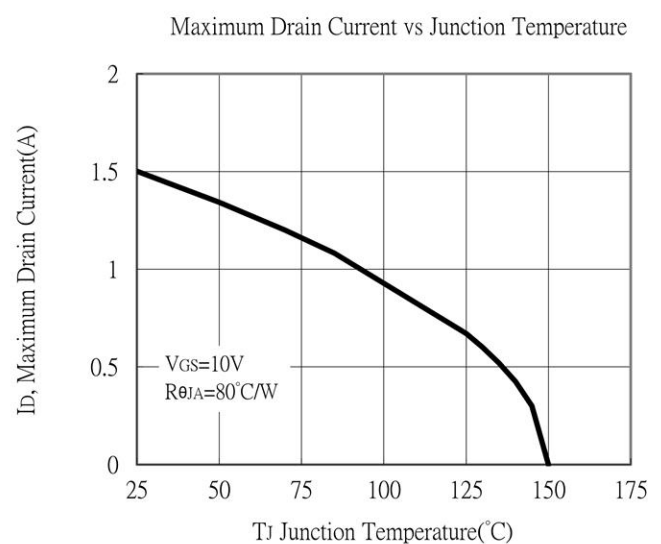
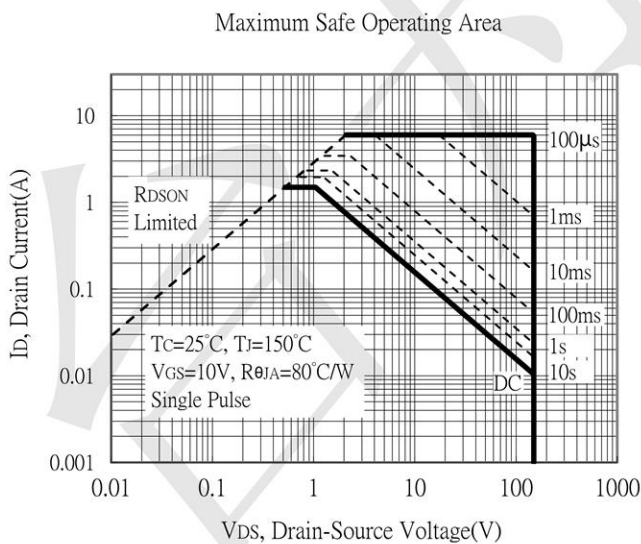
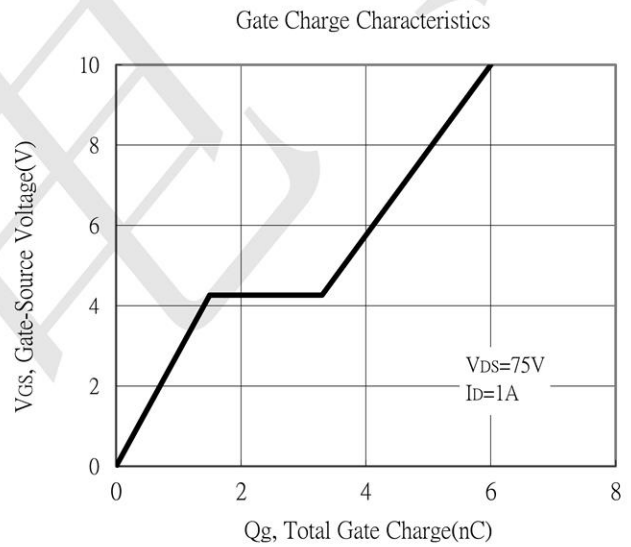
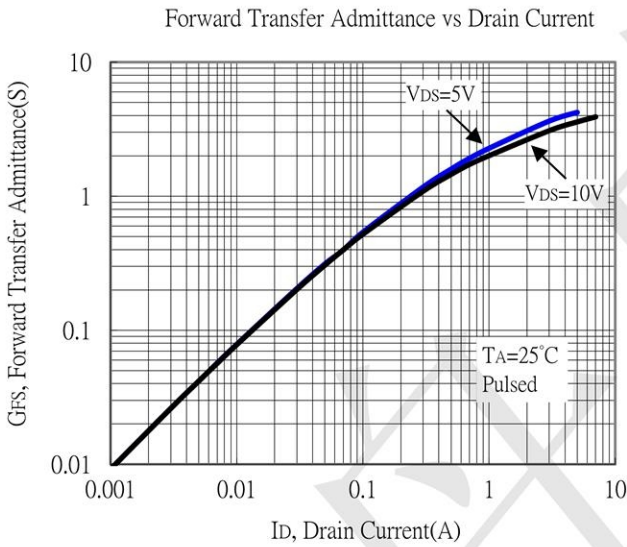
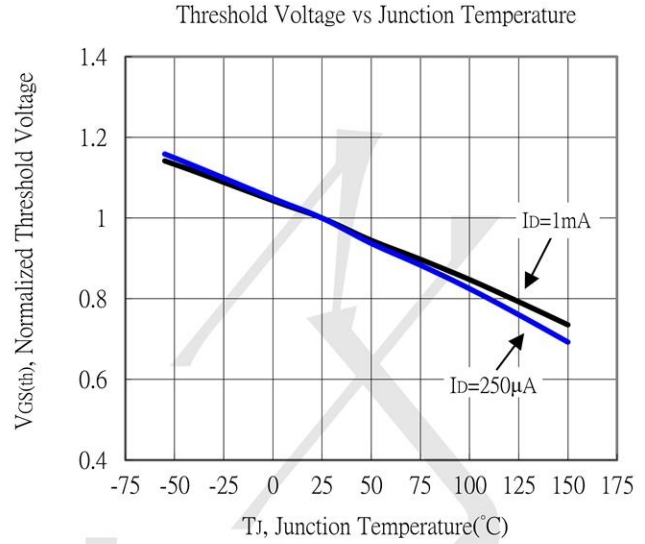
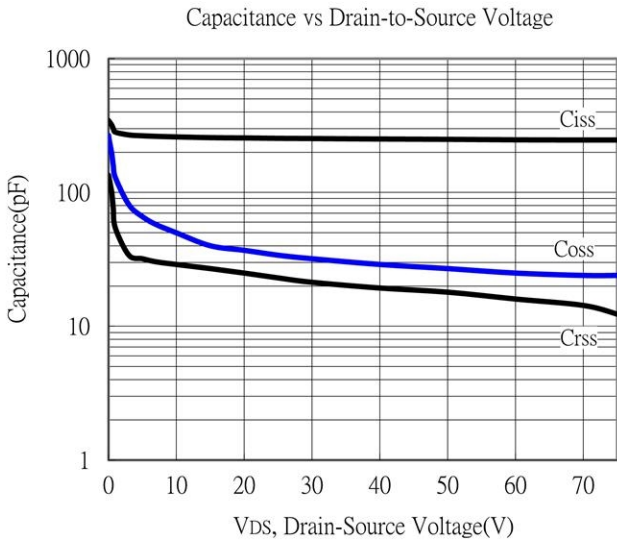


Static Drain-Source On-State Resistance vs Gate-Source Voltage



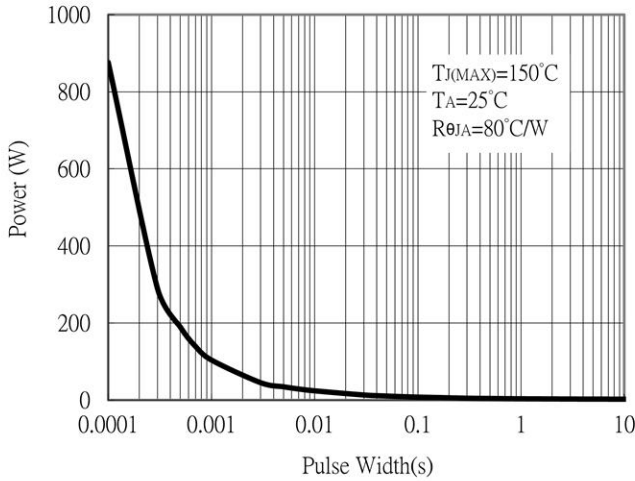
Drain-Source On-State Resistance vs Junction Temperature



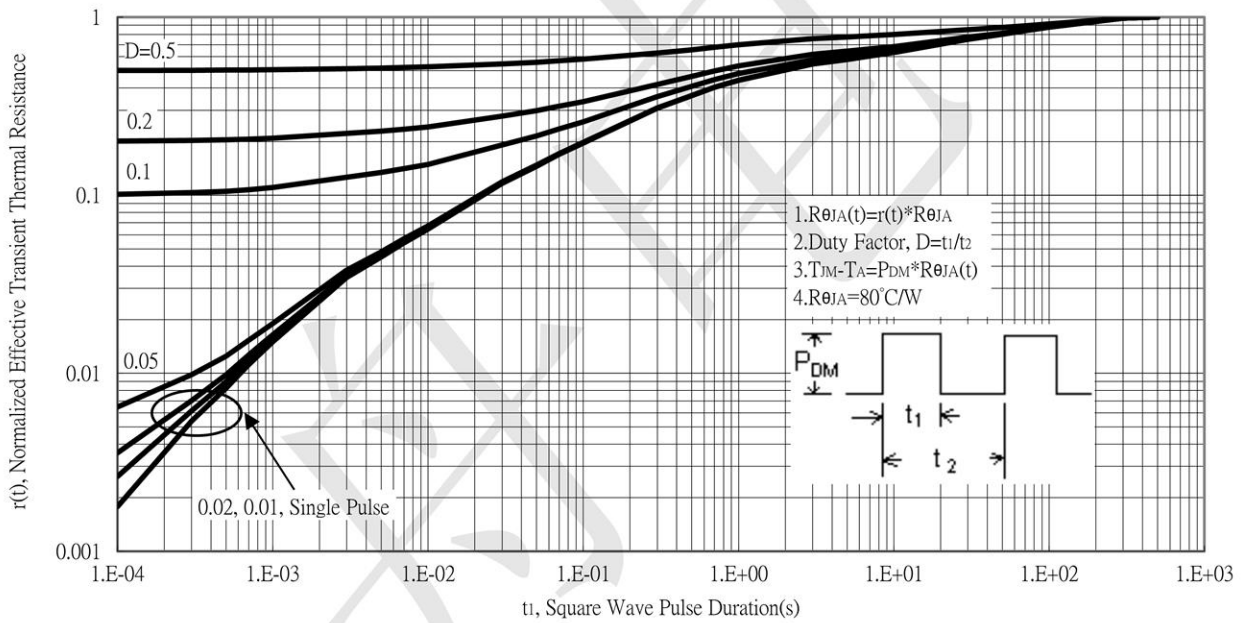


Typical Characteristics (Cont.)

Single Pulse Power Rating, Junction to Ambient

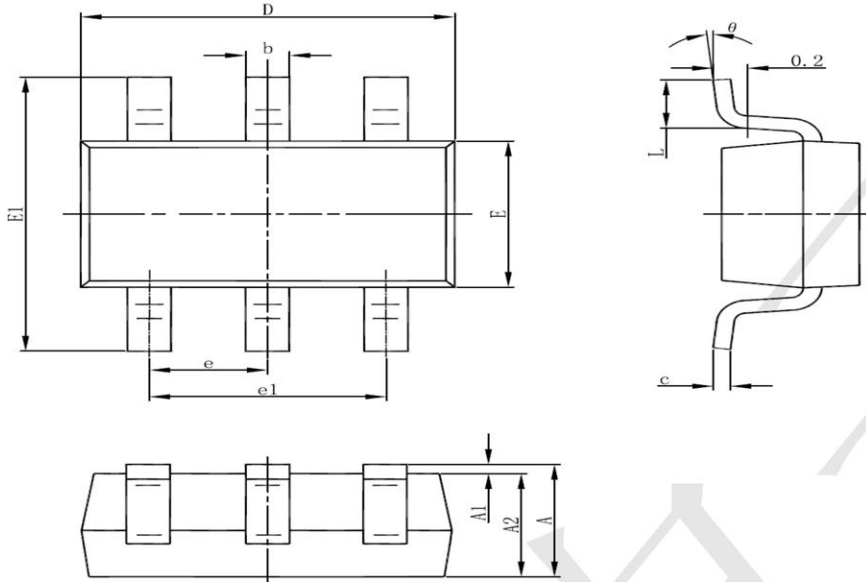


Transient Thermal Response Curves





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°

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