Product Summary

| $V_{(BR)DSS}$	$R_{DS(on)TYP}$	I_D
-60V	140mΩ@-10V	-1.8A
	160mΩ@-4.5V	

Feature

- High density cell design for ultra low Rdson
- Super Low Gate Charge
- Excellent package for good heat dissipation
- Advanced high cell density Trench technology

Package
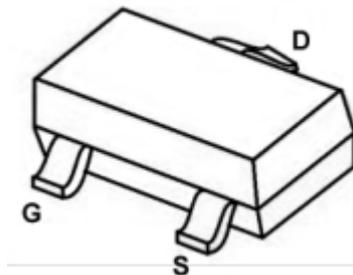
Circuit diagram

Marking

6P14   =Device Code
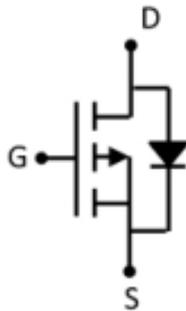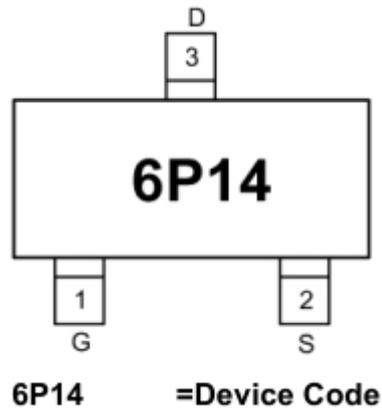
Absolute maximum ratings

(T_a=25℃ unless otherwise noted)

| Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	-60	V
Gate-Source Voltage	V_{GS}	±20	V
Continuous Drain Current	I_D	-1.8	A
Pulsed Drain Current	I_{DM}	-7.2	A
Power Dissipation	P_D	1.5	W
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	83.3	℃/W
Junction Temperature	T_J	150	℃
Storage Temperature	T_{STG}	-55~ +150	℃

Electrical characteristics

(T_A=25℃, unless otherwise noted)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Static Characteristics						
Drain-Source Breakdown Voltage	BV$_{(BR)DSS}$	V_{GS} = 0V, I_D =-250μA	-60			V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS} =-60V, V_{GS} = 0V			-1	uA
Gate-Source Leakage	I_{GSS}	V_{GS} =±20V, V_{DS} =0V			±100	uA
Gate-Source Threshold Voltage	$V_{GS(th)}$	V_{DS} =V_{GS}, I_D =-250μA	-1	-1.5	-2.5	V
Drain-Source On-Resistance	$R_{DS(on)}$	V_{GS} =-10V, I_D =-1.5A		140	180	mΩ
		V_{GS} =-4.5V, I_D =-1A		160	200	
Dynamic Characteristics						
Input Capacitance	C_{iss}	V_{DS}=-10V, V_{GS}=0V, f=1MHz		750		pF
Output Capacitance	C_{oss}			85		
Reverse Transfer Capacitance	C_{rss}			45		
Total Gate Charge (4.5V)	Q_g	V_{DD}=-30V, V_{GS}=-10V, I_D=-1.5A		7.2		nC
Gate-Source Charge	Q_{gs}			2		
Gate-Drain Charge	Q_{gd}			2		
Switching Characteristics						
Turn-on Delay Time	$T_{d(on)}$	V_{DS} =-30V, I_D=-1A, V_{GS}=-10V, R_G=10Ω		9		nS
Turn-on Rise Time	T_r			12		
Turn-off Delay Time	$T_{d(off)}$			45		
Turn-off Fall Time	T_f			10		
Drain-Source Diode Characteristics						
Diode Forward Voltage	V_{SD}	I_{SD}=-1A,V_{GS}=0V			-1.2	V

Typical Characteristics

Output Characteristics

Rdson-Junction Temperature

Transfer Characteristics

Gate Charge

Rdson- Drain Current

Source- Drain Diode Forward

Capacitance vs Vds

BVDSS vs Junction Temperature

Safe Operation Area

ID Current De-rating

Square Wave Pluse Duration(sec)

Normalized Maximum Transient Thermal Impedance
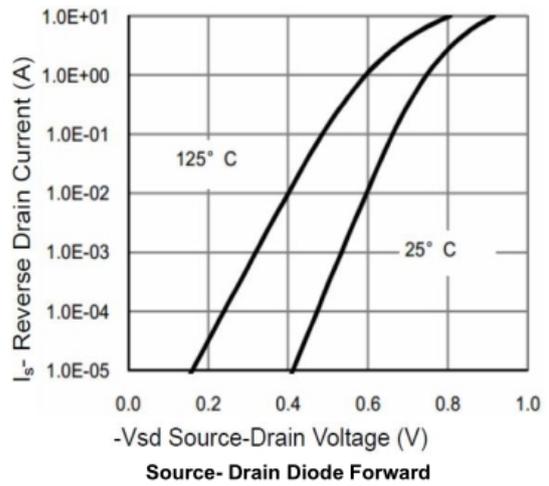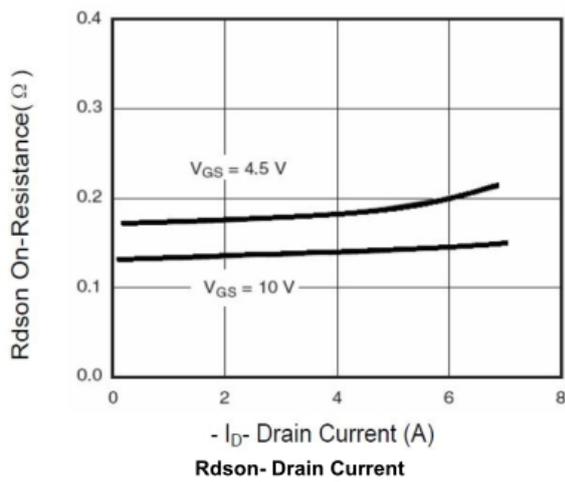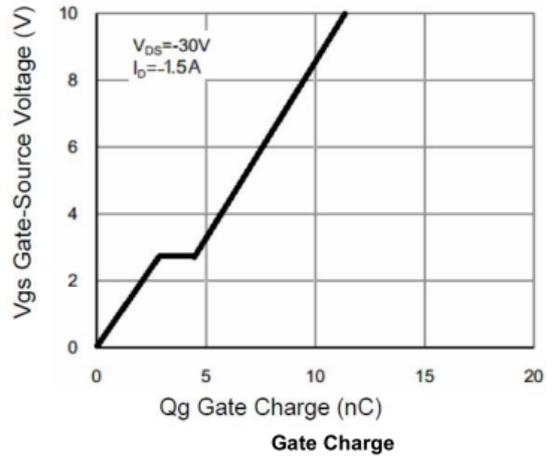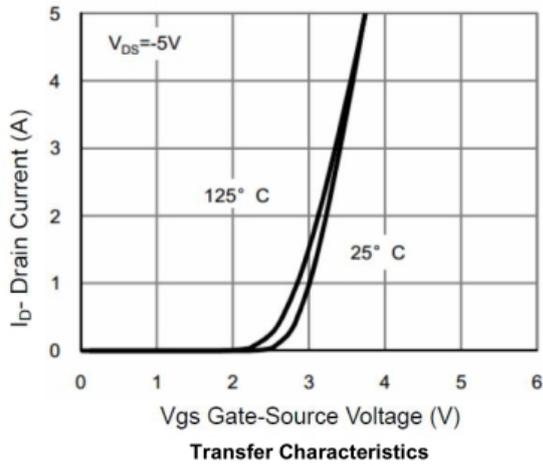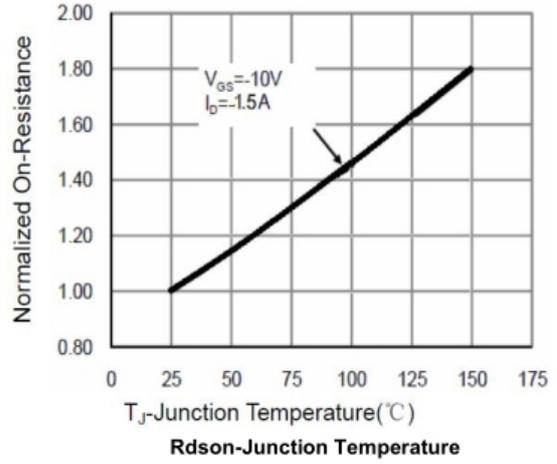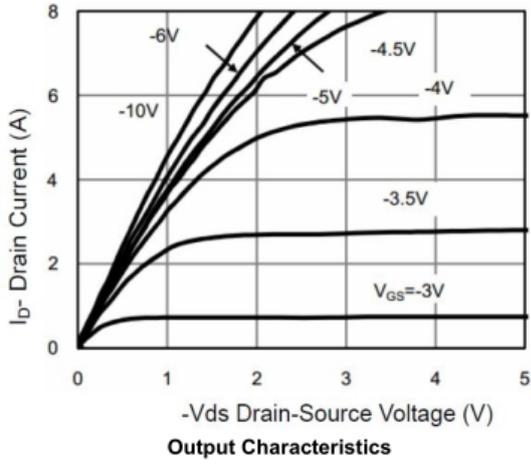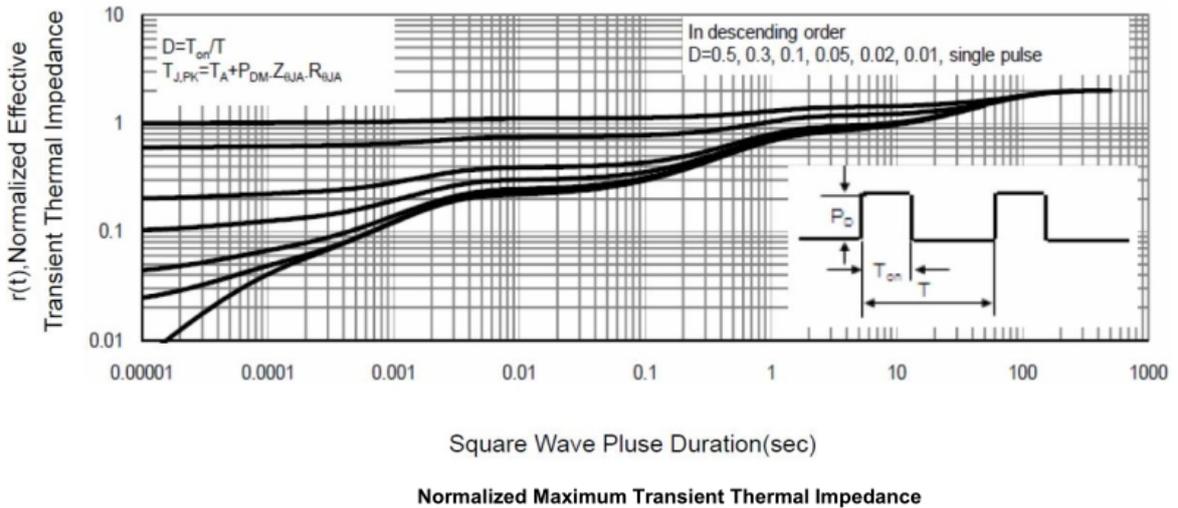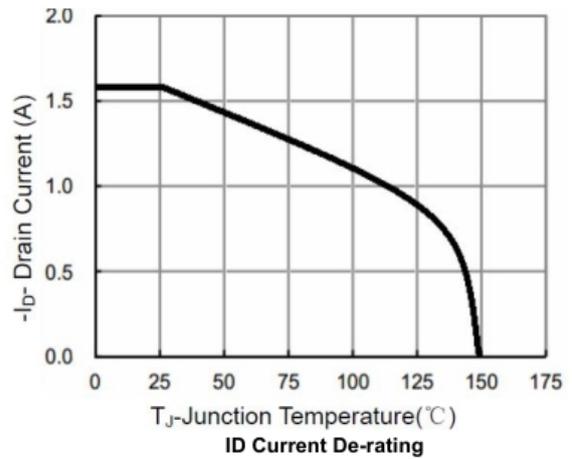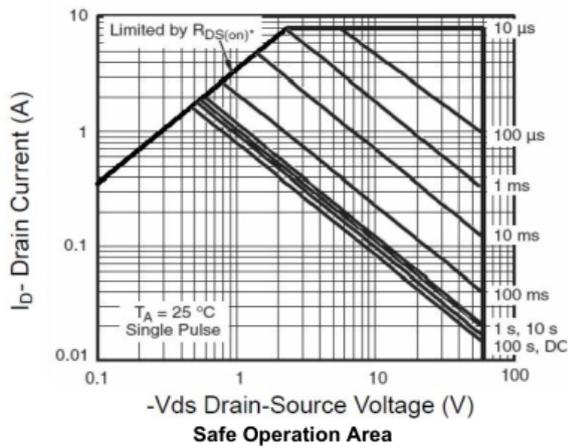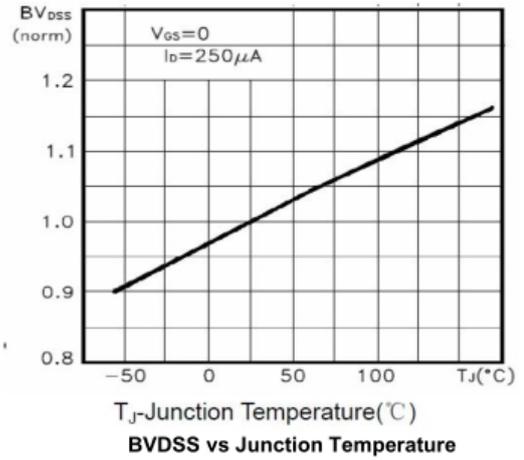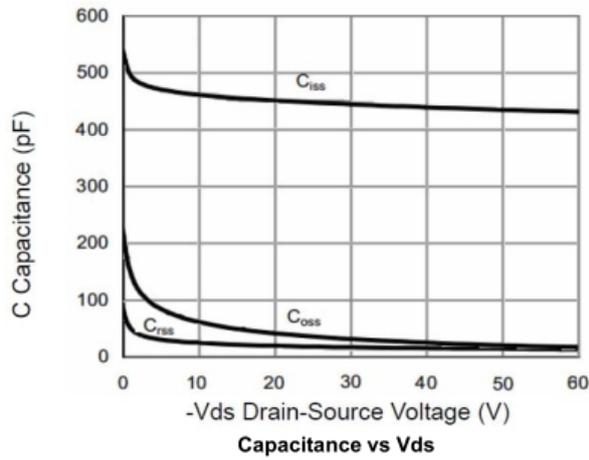
SOT-23 Package Information

共面度0-0.09mm
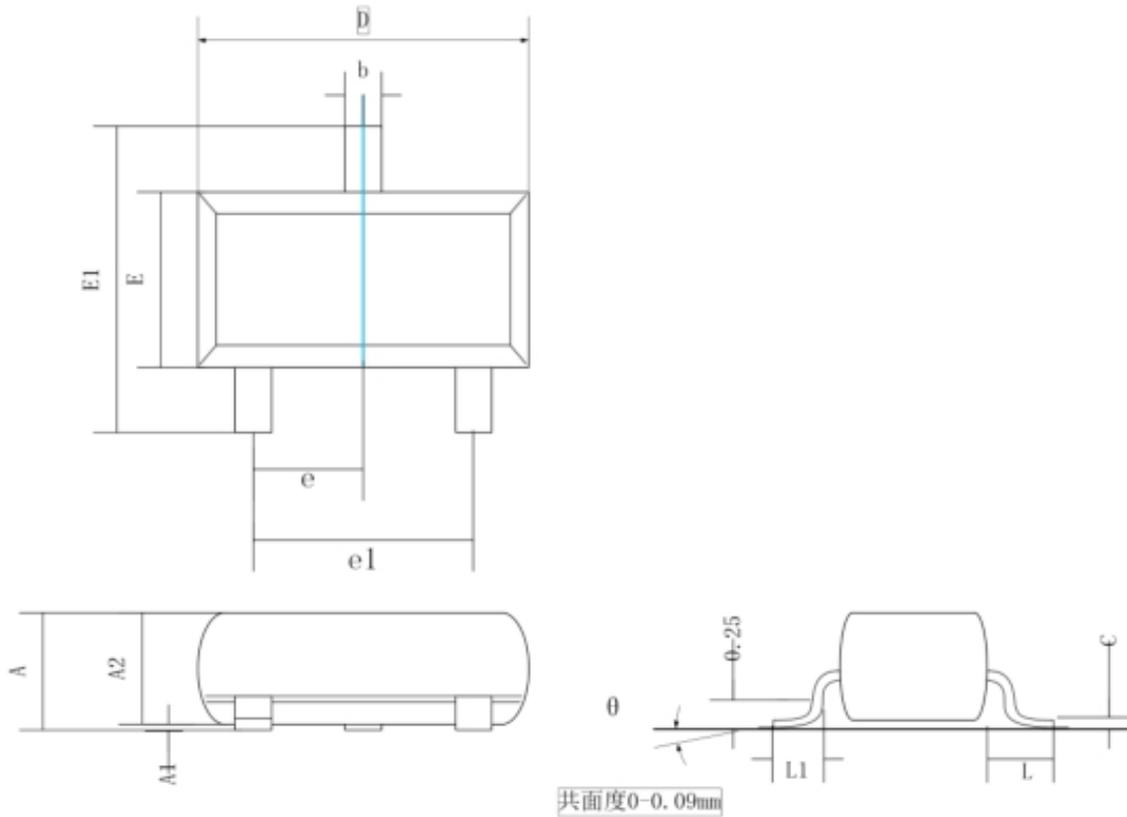
Symbol	Dimensions In Millimeters	
	Min.	Max.
A	0.90	1.15
A1	0.00	0.10
A2	0.90	1.05
b	0.30	0.50
c	0.08	0.15
D	2.80	3.00
E	1.20	1.40
E1	2.25	2.55
e	0.95 REF.	
e1	1.80	2.00
L	0.55 REF.	
L1	0.30	0.50
θ	0°	8°