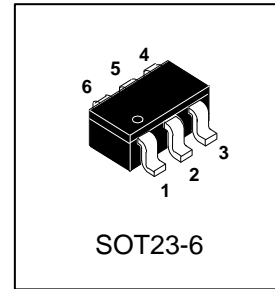


P2511

60V P-Channel (D-S) MOSFET

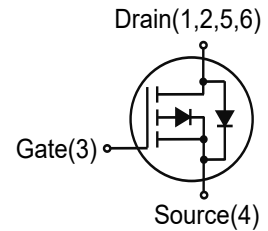
1. FEATURES

- Low RDS(ON) trench technology.
- Low thermal impedance.
- Fast switching speed.
- We declare that the material of product compliance with RoHS requirements and Halogen Free.



2. APPLICATIONS

- Load Switches
- DC/DC Conversion
- Motor Drives



3. DEVICE MARKING AND ORDERING INFORMATION

Device	Marking	Shipping
P2511	P11	3000/Tape&Reel

4. MAXIMUM RATINGS(Ta = 25°C)

Parameter	Symbol	Limits	Unit	
Drain-Source Voltage	VDS	-60	V	
Gate-Source Voltage	VGS	±20		
Continuous Drain Current (Note 1)	ID	-3.5	A	
Pulsed Drain Current (Note 2)	IDM	-14		
Avalanche Current	IAS	14		
Avalanche energy(L=0.1mH)	EAS	9.8	mJ	
Power Dissipation (Note 1)	PD	TA = 25°C	1.25	W
		TA = 70°C	0.9	
Operating Junction and Storage Temperature Range	TJ , Tstg	-55~+150	°C	

5. THERMAL CHARACTERISTICS

Parameter	Symbol	Limits	Unit
Thermal Resistance,Junction-to-Ambient (Note 1)	RθJA	100	°C/W
Thermal Resistance,Junction-to-Ambient (Note 3)	RθJA	150	°C/W

- 1.Surface mounted on "1.5 x 1.5" FR4 board using 1 sq in pad, 2 oz Cu.
- 2.Pulse width limited by maximum junction temperature.
- 3.Surface mounted on FR4 board using the minimum recommended pad size.



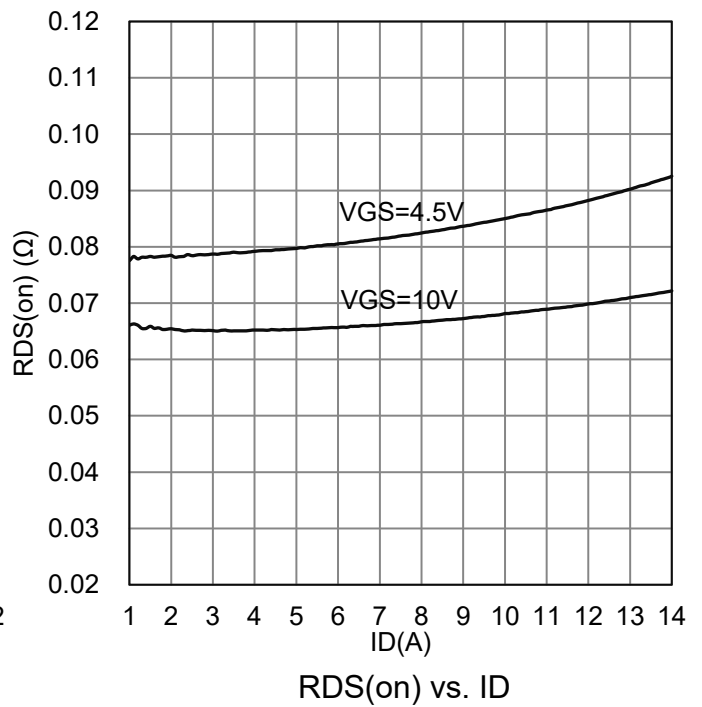
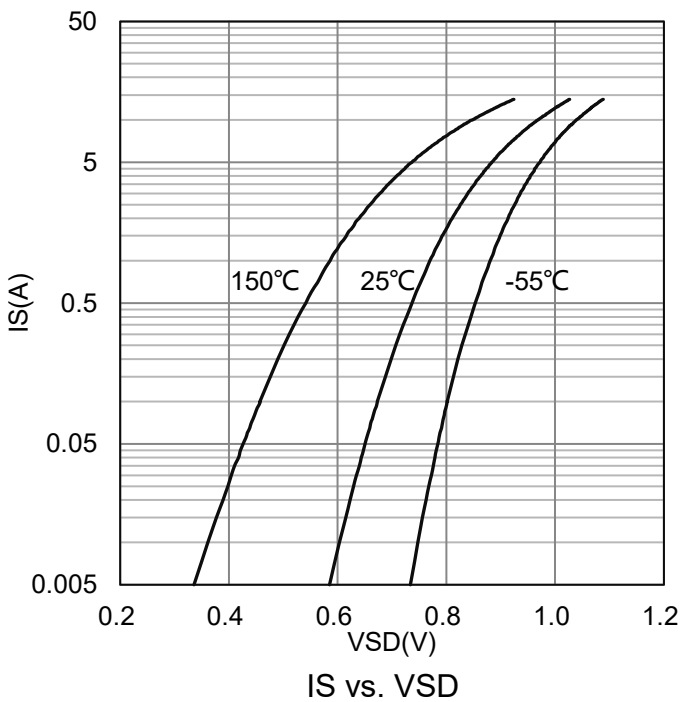
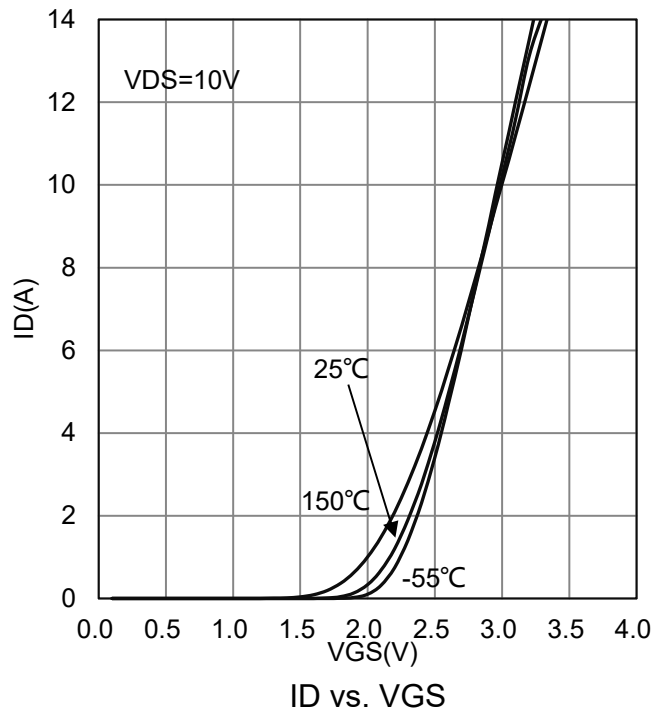
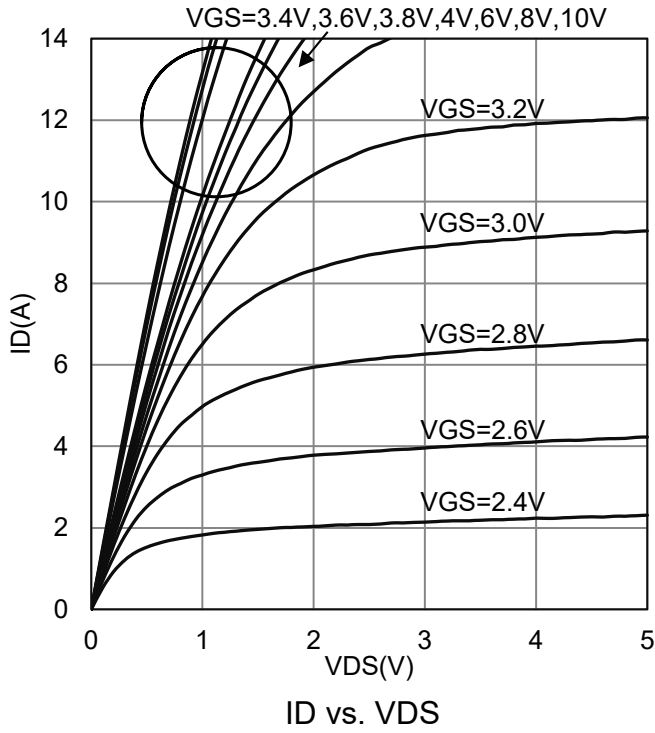
6. ELECTRICAL CHARACTERISTICS (Ta= 25°C)

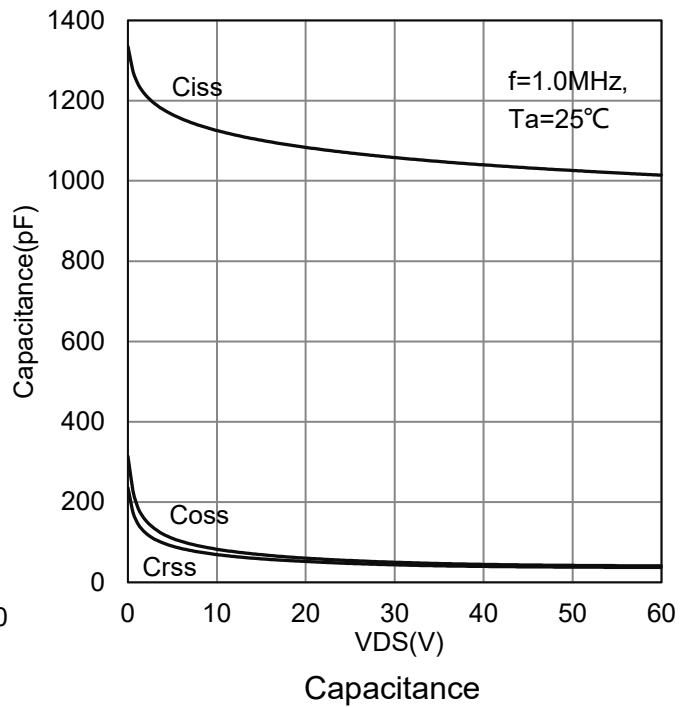
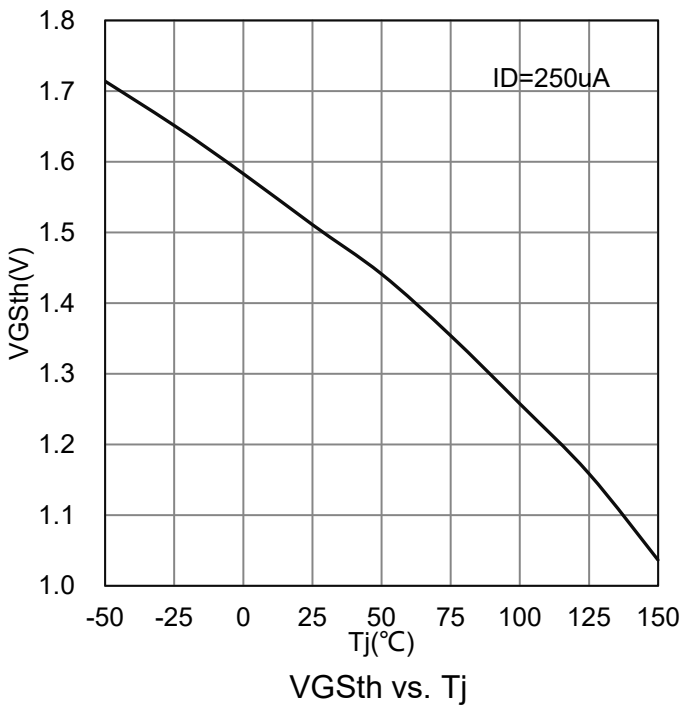
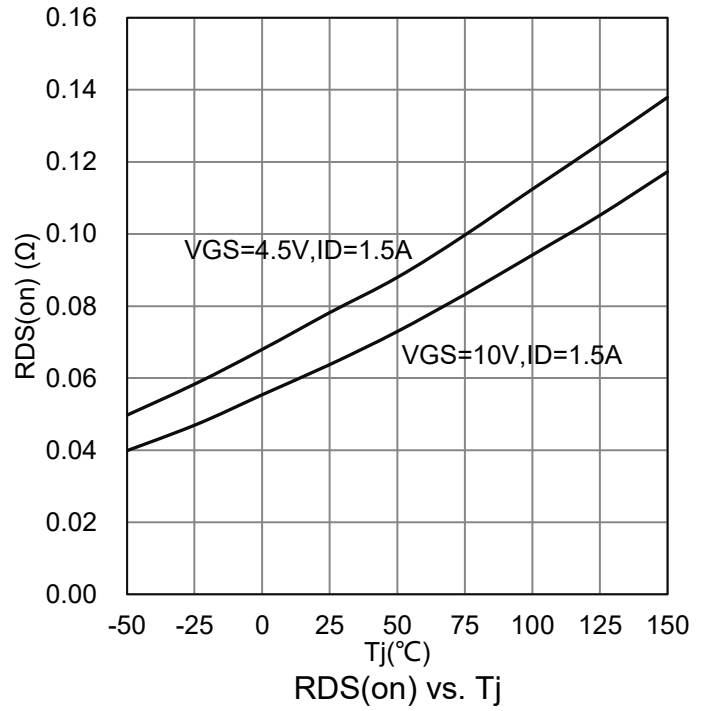
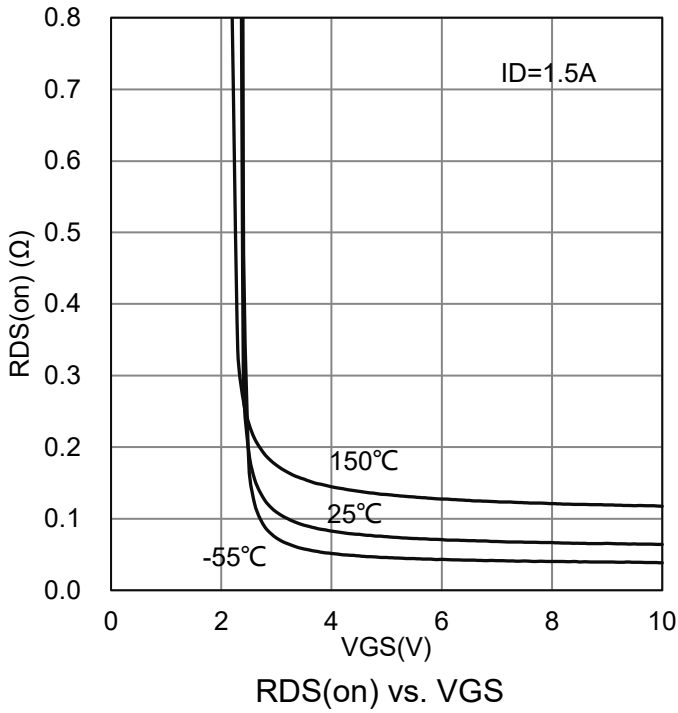
Characteristic	Symbol	Min.	Typ.	Max.	Unit
STATIC					
Drain–Source Breakdown Voltage (VGS = 0, ID = -250μA)	VBRDSS	-60	-	-	V
Gate–Source Threshold Voltage (VGS = VDS , ID = -250μA)	VGS(th)	-1	-	-3	V
Gate–to–Source Leakage Current (VDS = 0 V, VGS = ±20 V)	IGSS	-	-	±10	μA
Zero Gate Voltage Drain Current (VDS = -48 V, VGS = 0 V) (VDS = -48 V, VGS = 0 V, TJ = 55°C)	IDSS	-	-	-1 -25	μA
Static Drain–Source On–State Resistance(Note 4) (VGS = -10 V, ID = -1.5 A) (VGS = -4.5 V, ID = -1.5 A)	RDS(on)	-	-	92 110	mΩ
Forward Diode Voltage (IS = -2.1 A, VGS = 0 V)	VSD	-	-	-1.2	V
DYNAMIC					
Total Gate Charge	(VDS = -30 V, VGS = -4.5 V, ID = -4 A)	Qg	-	8.8	nC
Gate–to–Source Charge		Qgs	-	2.3	
Gate–to–Drain Charge		Qgd	-	3.4	
Turn–On Delay Time	(VDS=-30 V, RL=7.5 Ω, ID=-4 A, VGEN =-10 V, RGEN= 6 Ω)	td(on)	-	8.7	ns
Turn–On Rise Time		tr	-	9.2	
Turn–Off Delay Time		td(off)	-	45.2	
Turn–Off Fall Time		tf	-	18.2	
Input Capacitance	(VDS = -15 V, VGS = 0 V, f = 1 MHz)	Ciss	-	1086	pF
Output Capacitance		Coss	-	68	
Reverse Transfer Capacitance		Crss	-	66	

4.Pulse Test: Pulse Width ≤300 μs, Duty Cycle ≤2.0%.

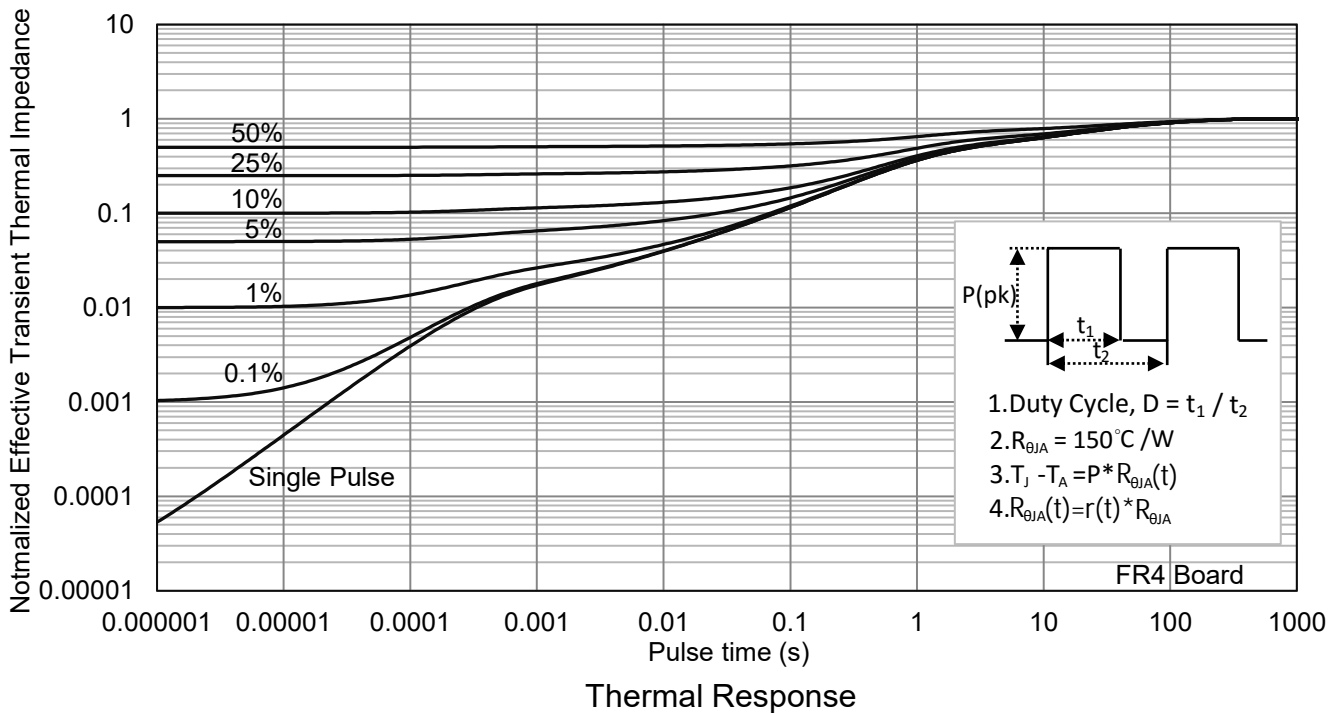
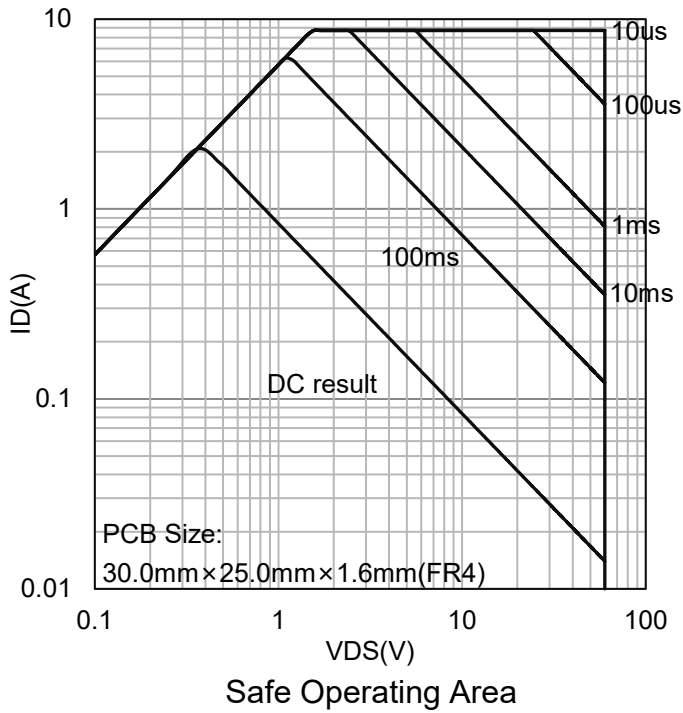


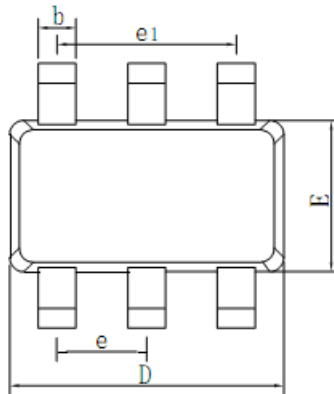
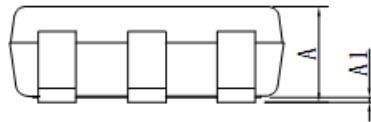
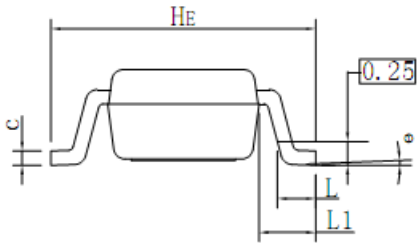
7. ELECTRICAL CHARACTERISTICS CURVES



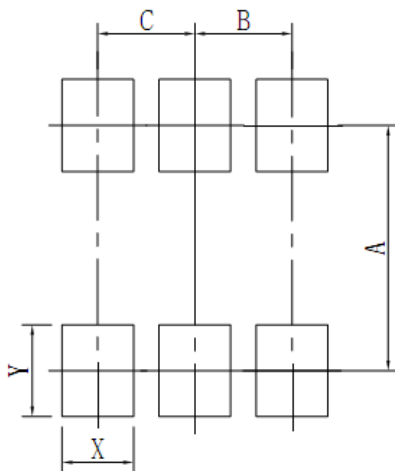
7. ELECTRICAL CHARACTERISTICS CURVES(Con.)


7. ELECTRICAL CHARACTERISTICS CURVES(Con.)



8. OUTLINE AND DIMENSIONS
SOT23-6


SOT23-6			
DIM	MIN	NOR	MAX
A	0.90	1.00	1.10
A1	0.01	0.06	0.10
b	0.25	0.40	0.50
c	0.10	0.17	0.26
D	2.80	2.90	3.10
E	1.30	1.60	1.70
e	0.85	0.95	1.05
e1	1.80	1.90	2.00
L	0.20	0.40	0.60
L1	0.60REF		
HE	2.50	2.80	3.00
θ	0°	-	10°

9. SOLDERING FOOTPRINT


SOT23-6	
DIM	(mm)
X	0.70
Y	0.90
A	2.40
B	0.95
C	0.95

