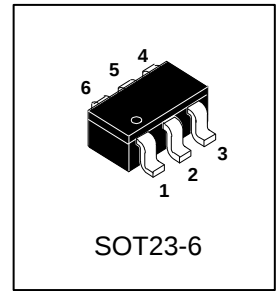


S-LP2512T1G

60V P-Channel Power MOSFET

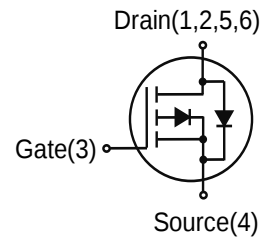
1. FEATURES

- $V_{DS} = -60V$.
- Low thermal impedance.
- Fast switching speed.
- We declare that the material of product are Halogen Free and compliance with RoHS requirements.
- S-prefix for automotive and other applications requiring unique site and control change requirements; AEC-Q101 qualified and PPAP capable.



2. APPLICATION

- Power Routing
- Load Switch



3. ORDERING INFORMATION

Device	Marking	Shipping
S-LP2512T1G	T12	3000/Tape&Reel

4. MAXIMUM RATINGS($T_a = 25^{\circ}C$)

Parameter		Symbol	Limits	Unit
Drain-to-Source Voltage		V_{DS}	-60	V
Gate-to-Source Voltage		V_{GS}	± 20	V
Continuous Drain Current(Note 1)	$T_A = 25^{\circ}C$	I_D	-2.8	A
	$T_A = 70^{\circ}C$		-2.2	A
Pulsed Drain Current (Note 2)		I_{DM}	-11	A
Avalanche Current($L=0.1mH$)		I_{AS}	12	A
Avalanche energy($L=0.1mH$)		E_{AS}	7.2	mJ
Maximum Power Dissipation(Note 1) $T_A = 25^{\circ}C$		P_D	1.25	W
Operating Junction and Storage Temperature Range		T_J/T_{stg}	$-55 \sim +150$	$^{\circ}C$

5. THERMAL CHARACTERISTICS

Parameter	Symbol	Limits	Unit
Thermal Resistance,Junction-to-Ambient (Note 1)	$R_{\theta JA}$	100	$^{\circ}C/W$

1.Surface mounted on "1.5 x 1.5" FR4 board using 1 sq in pad, 2 oz Cu.

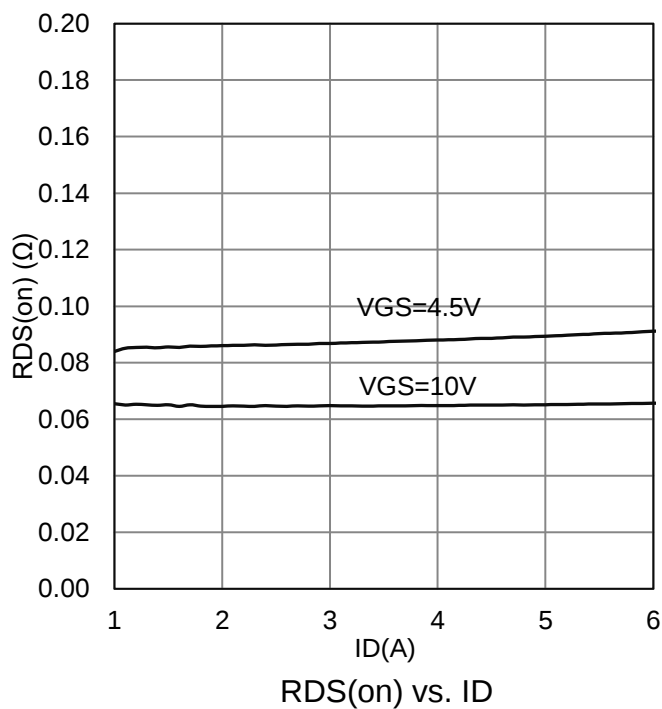
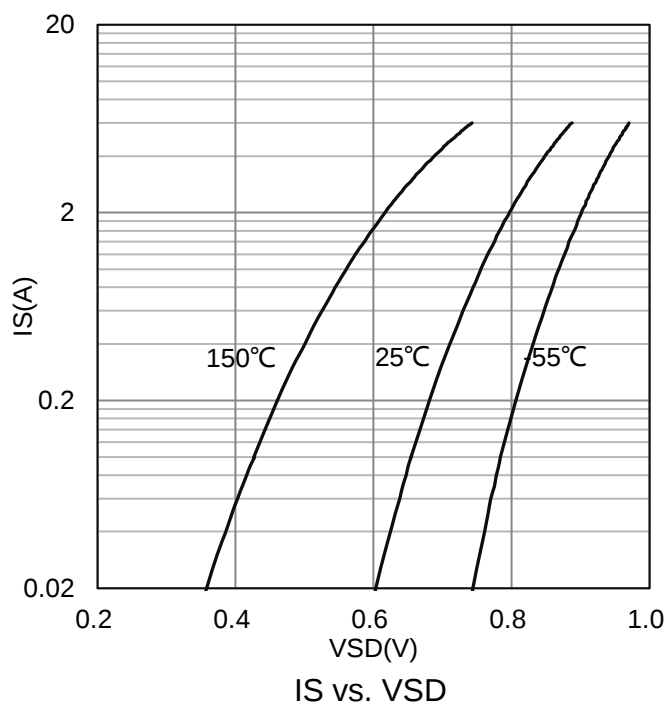
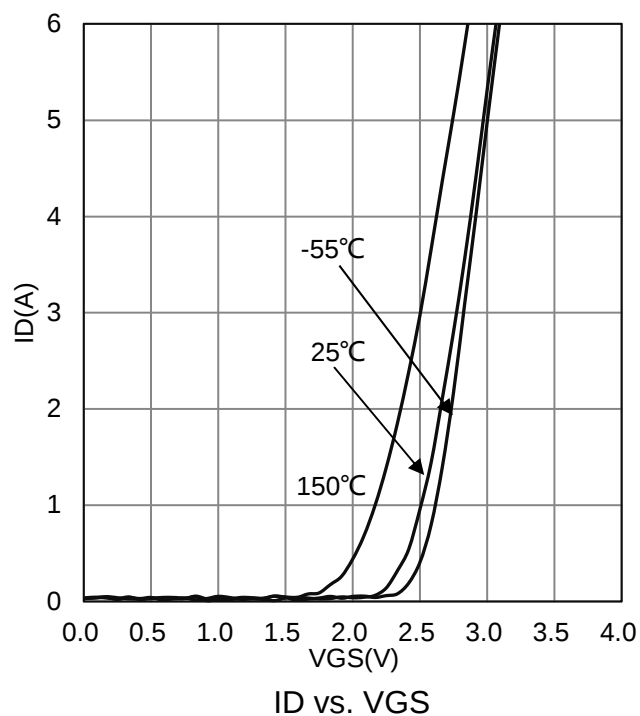
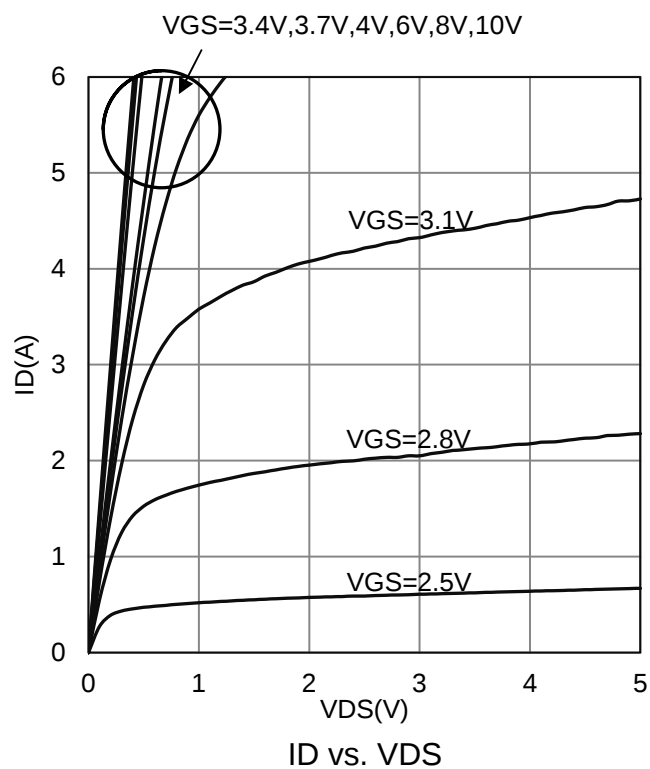
2.Pulse width limited by maximum junction temperature

6. ELECTRICAL CHARACTERISTICS (Ta= 25°C)

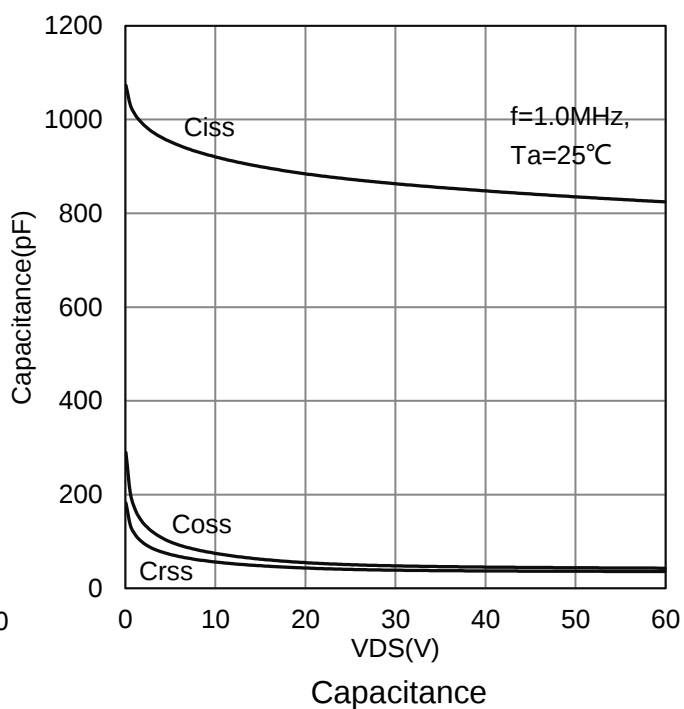
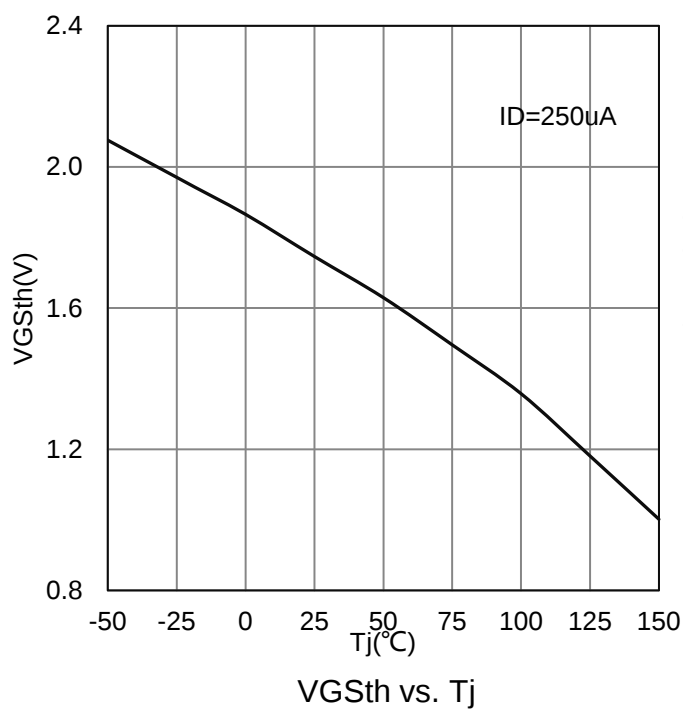
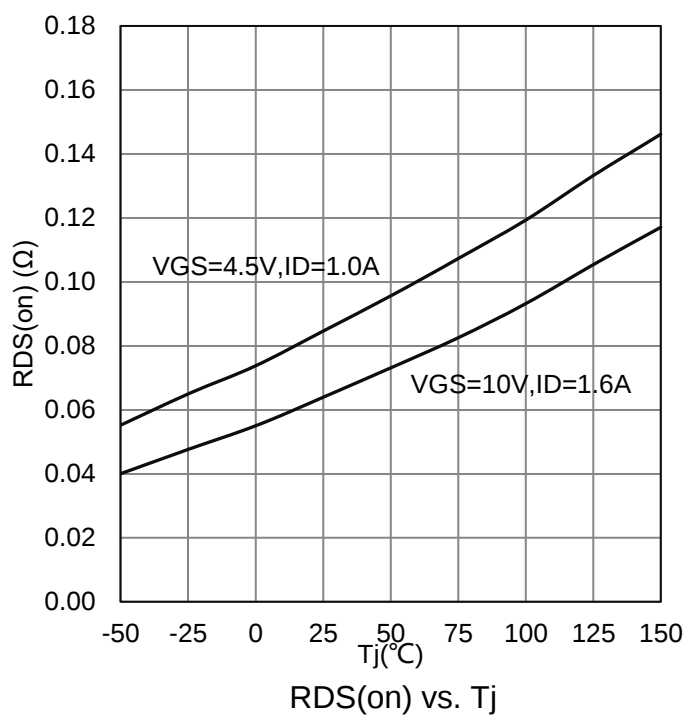
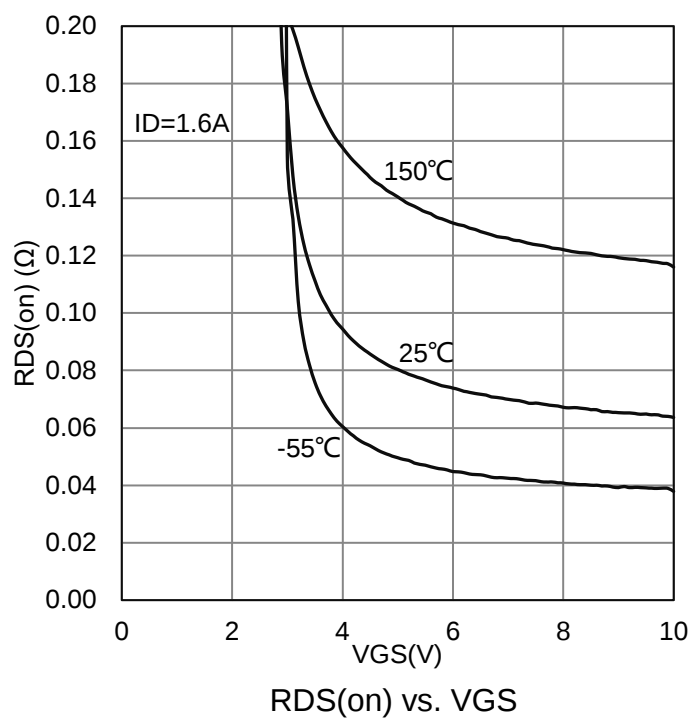
Characteristic	Symbol	Min.	Typ.	Max.	Unit
Static					
Drain–Source Breakdown Voltage (VGS = 0 V, ID = -250 μ A)	V(BR)DSS	-60	-	-	V
Zero Gate Voltage Drain Current (VDS= -48 V, VGS= 0 V)	IDSS	-	-	-1	μ A
Gate–Body Leakage Current (VDS = 0 V, VGS = $\pm$ 20 V)	IGSS	-	-	$\pm$ 100	nA
Gate Threshold Voltage (VDS = VGS, ID = -250 μ A)	VGS(th)	-1	-	-2.5	V
Static Drain–Source On–State Resistance(Note 3) (VGS = -10 V, ID = -1.6 A) (VGS = -4.5 V, ID = -1 A)	RDS(on)	- -	- -	95 120	m Ω
Diode Forward Voltage (VGS = 0 V, IS = -1 A)	VSD	-	-0.7	-1.2	V
Dynamic					
Input Capacitance	(VDS = -30 V, VGS = 0 V, f = 1MHz)	Ciss	-	863	pF
Output Capacitance		Coss	-	48	
Reverse Transfer Capacitance		Crss	-	39	
Total Gate Charge	(VDS = -30 V, VGS = -10 V, ID = -1.6 A)	Qg	-	15	nC
Gate–Source Charge		Qgs	-	2	
Gate–Drain Charge		Qgd	-	3.2	
Turn-On Delay Time	(VDS = -30 V, RL = 7.5 Ω , ID = -4 A, VGEN = -10 V, RGEN = 6 Ω)	td(on)	-	5.6	ns
Rise Time		tr	-	7.5	
Turn-Off Delay Time		td(off)	-	50	
Fall Time		tf	-	20.5	

3.Pulse Test: Pulse Width $\leq$ 300 μ s, Duty Cycle $\leq$ 2.0%.

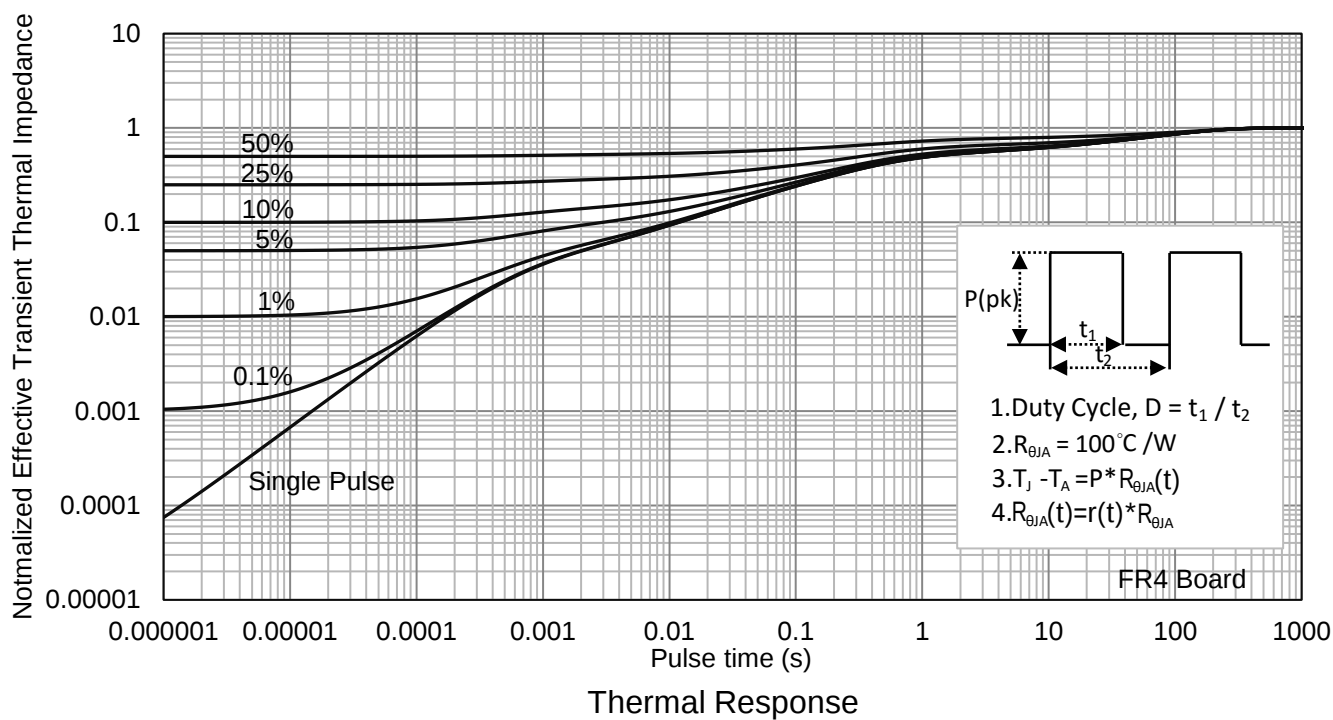
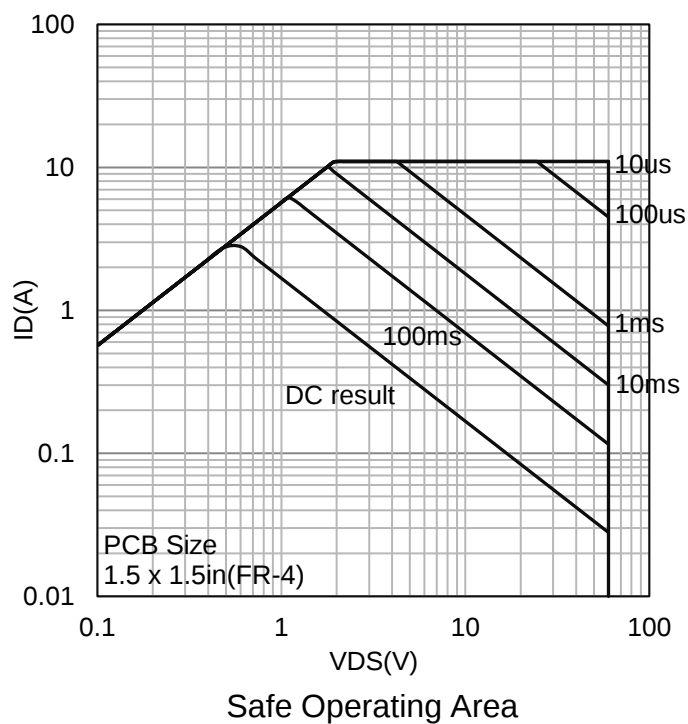
7. ELECTRICAL CHARACTERISTICS CURVES



7. ELECTRICAL CHARACTERISTICS CURVES(Con.)

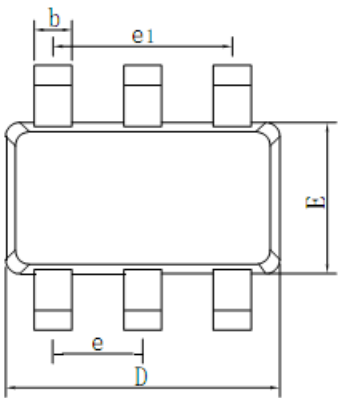
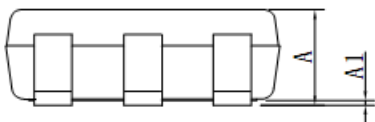
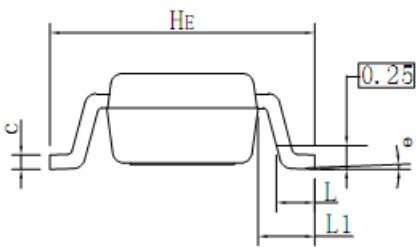


7. ELECTRICAL CHARACTERISTICS CURVES(Con.)



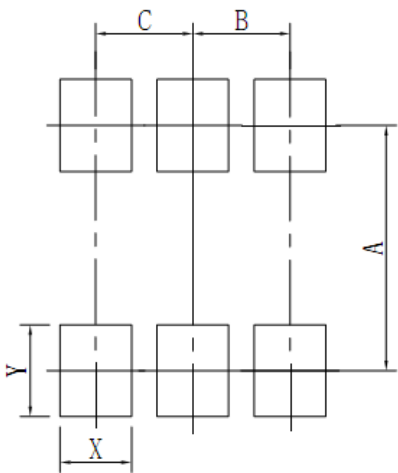
7.OUTLINE AND DIMENSIONS

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°

8.SOLDERING FOOTPRINT



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

DISCLAIMER

- Curve guarantee in the specification. The curve of test items with electric parameter is used as quality guarantee. The curve of test items without electric parameter is used as reference only.
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