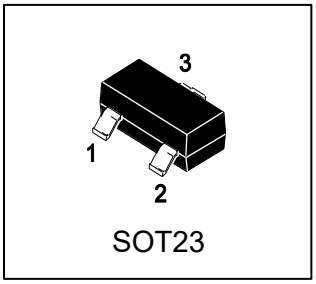
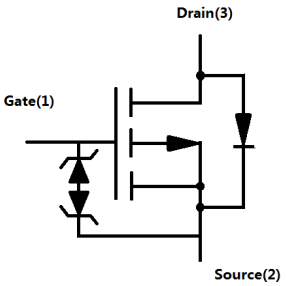
P2035L
S-P2035L

20V P-Channel MOSFET





1. FEATURES

- VDS =-20V
- RDS(ON),VGS@-4.5V,IDS@-1A=45mΩ
- RDS(ON),VGS@-2.5V,IDS@-4A=70mΩ
- Gate to Source ESD Protection
- We declare that the material of product compliance with RoHS requirements and Halogen Free.
- S- prefix for automotive and other applications requiring unique site and control change requirements; AEC-Q101 qualified and PPAP capable.

2. APPLICATIONS

- Small package outline
- Surface mount device
- Load switch

3. DEVICE MARKING AND ORDERING INFORMATION

Device	Marking	Shipping
P2035L	TAP	3000/Tape&Reel

4. MAXIMUM RATINGS(Ta = 25ºC)

Parameter	Symbol	Limits	Unit
Drain–Source Voltage	VDSS	-20	V
Gate–to–Source Voltage – Continuous	VGS	±8	V
Drain Current – Continuous TA = 25°C – Pulsed(Note 1)	 ID IDM	 -3.5 -14	A
Source Current – Continuous TA = 25°C – Pulsed(Note 1)	 IS ISM	 -1 -14	A
Junction and Storage temperature	TJ,Tstg	−55～+150	℃

1.PW≤10μs Duty Cycle≤1%

5. THERMAL CHARACTERISTICS

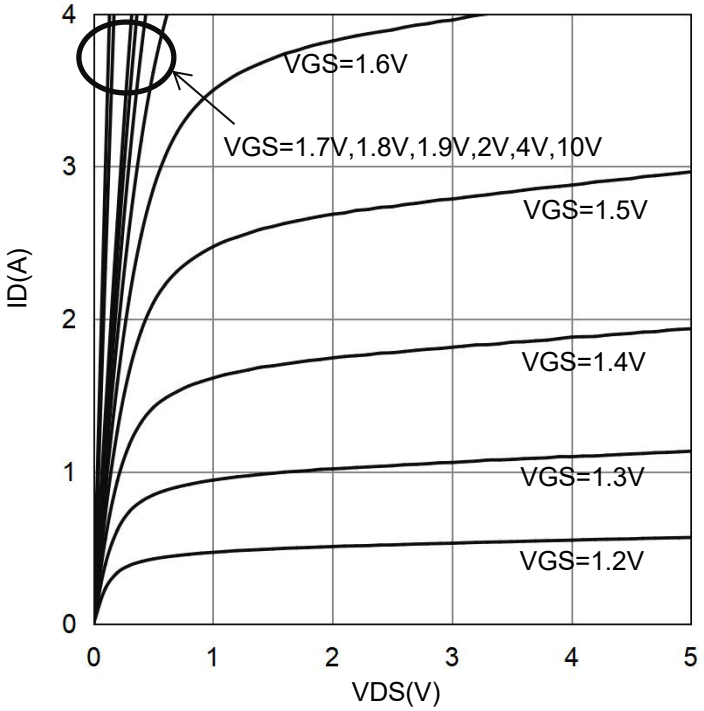
Parameter	Symbol	Limits	Unit
Maximum Power Dissipation	PD	0.7	W
Thermal Resistance, Junction–to–Ambient(Note 2)	RΘJA	175	ºC/W

2. The device mounted on 1in² FR5 board with 2 oz copper.

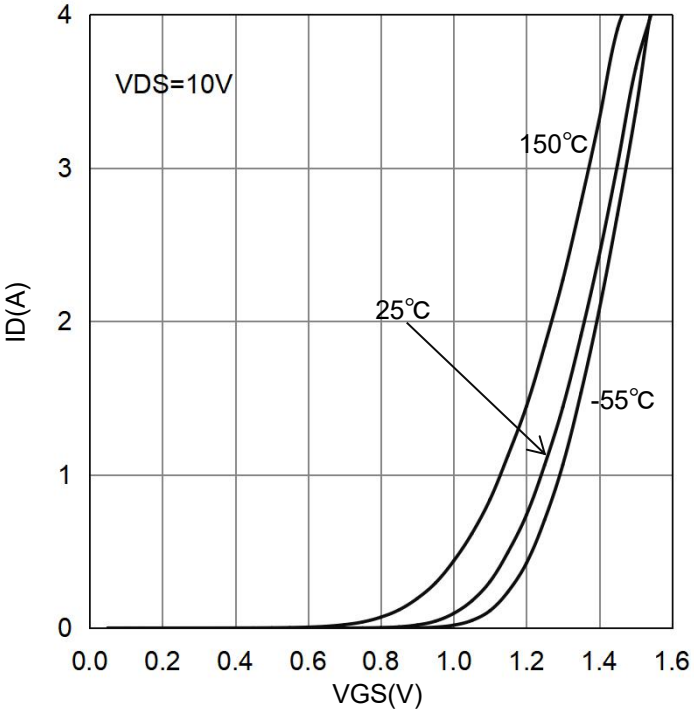
6. ELECTRICAL CHARACTERISTICS (Ta= 25°C)

Characteristic		Symbol	Min.	Typ.	Max.	Unit
Static						
Drain–Source Breakdown Voltage (VGS = 0, ID = -250μA)		VBRDSS	-20	-	-	V
Zero Gate Voltage Drain Current (VGS = 0, VDS = -20 V)		IDSS	-	-	-1	μA
Gate–Body Leakage Current (VGS = ±8 V,VDS=0V)		IGSS	-	-	±10	μA
Gate Threshold Voltage (VDS = VGS, ID = -250μA)		VGS(th)	-0.3	-0.6	-0.9	V
Static Drain–Source On–State Resistance (VGS = -4.5 V, ID = -1 A) (VGS = -2.5 V, ID = -4 A)		RDS(on)	 -	34 50	45 70	mΩ
Dynamic						
Input Capacitance (VGS = 0 V, f = 1.0MHz,VDS= -10 V)		Ciss	-	703	-	pF
Output Capacitance (VGS = 0 V, f = 1.0MHz,VDS= -10 V)		Coss	-	126	-	pF
Reverse Transfer Capacitance (VGS = 0 V, f = 1.0MHz,VDS= -10 V)		Crss	-	93.7	-	pF
Total Gate Charge (VGS = -4.5 V, ID =-3.5A,VDS= -10 V)		Qg	-	10	-	nC
Gate-Source Charge (VGS = -4.5 V, ID =-3.5A,VDS= -10 V)		Qgs	-	1.8	-	
Gate-Drain Charge (VGS = -4.5 V, ID =-3.5A,VDS= -10 V)		Qgd	-	2.7	-	
Gate-Resistance (VDS=0V,VGS=0V,f=1.0MHz)		Rg	-	94	-	Ω
Turn-On Delay Time	(VDD=-10V, RL =2.5Ω, RGEN=3.1Ω ,VGS=-4.5V)	td(on)	-	26	-	ns
Rise Time		tr	-	97	-	
Turn-Off Delay Time		td(off)	-	232	-	
Fall Time		tf	-	168	-	

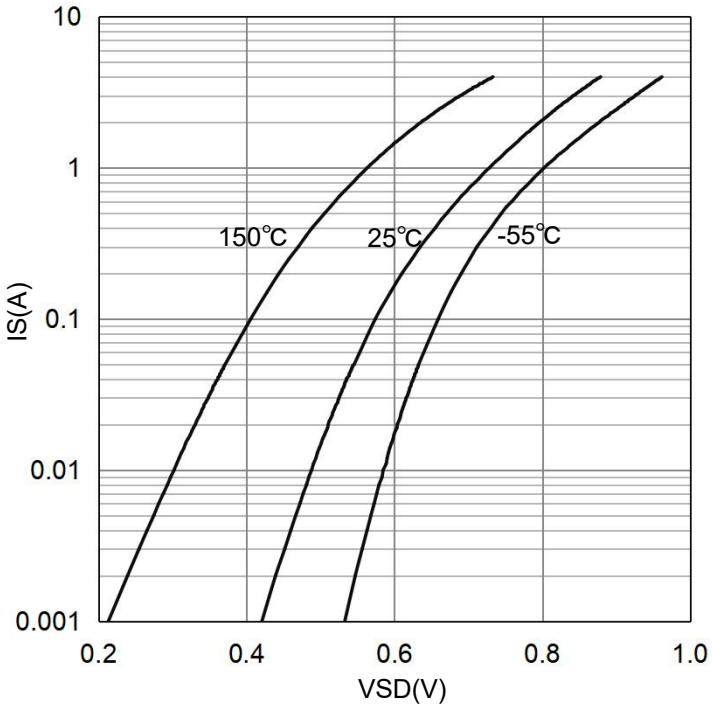
7. ELECTRICAL CHARACTERISTICS CURVES



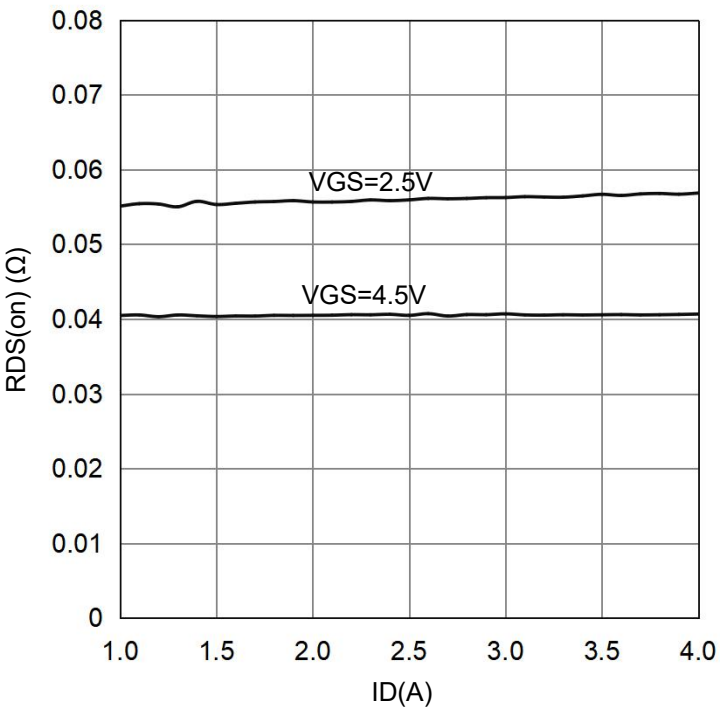
ID vs. VDS



ID vs. VGS

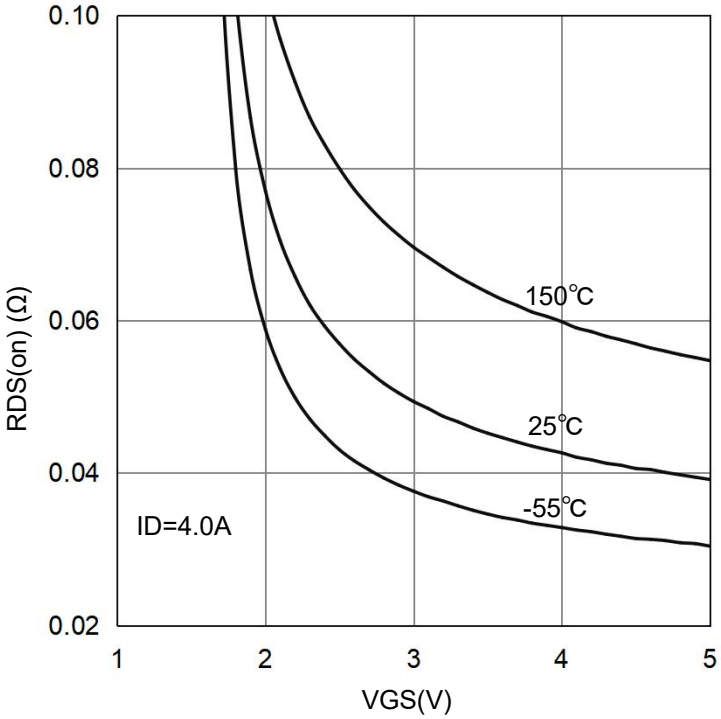


IS vs. VSD

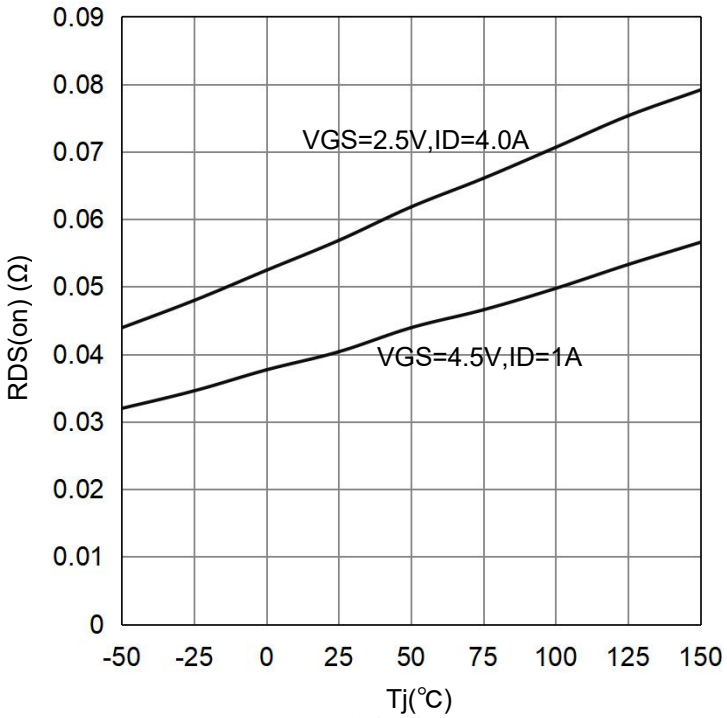


RDS(on) vs. ID

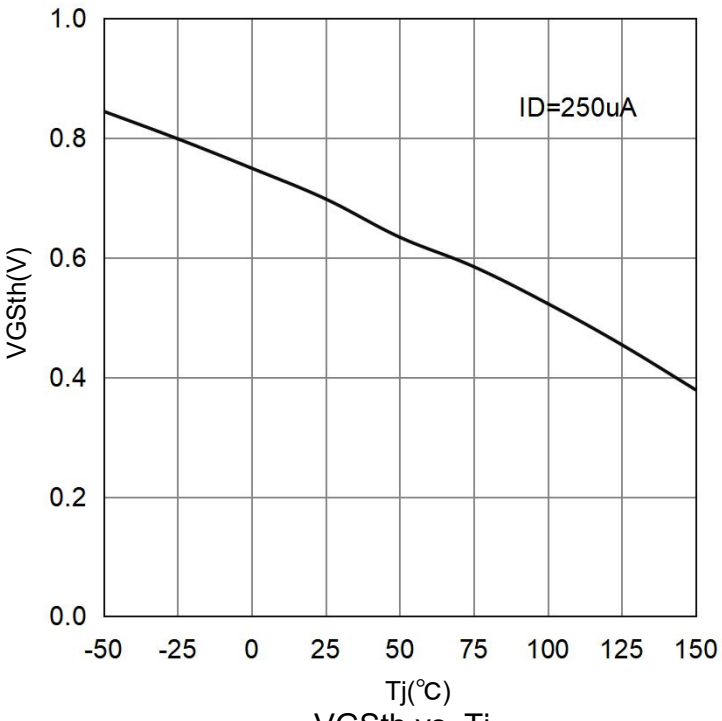
7. ELECTRICAL CHARACTERISTICS CURVES(Con.)



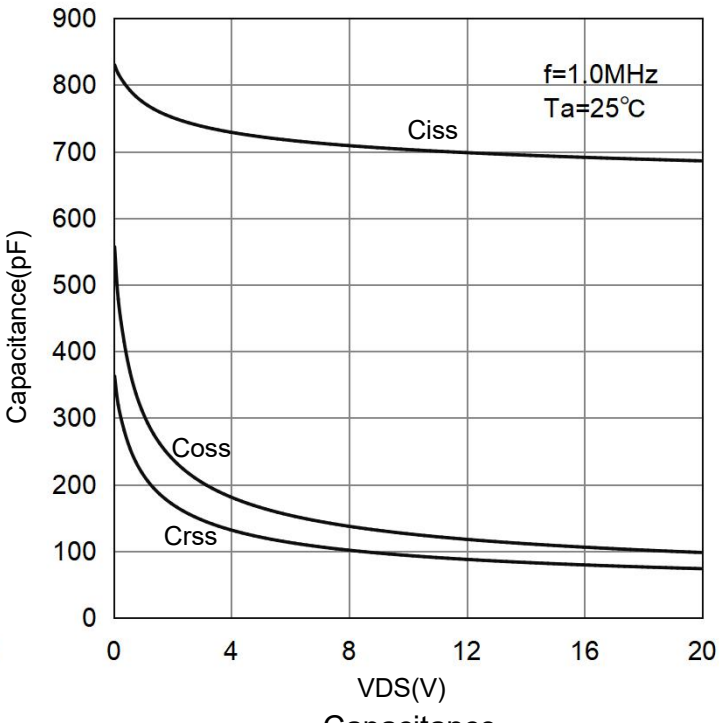
RDS(on) vs. VGS



RDS(on) vs. Tj

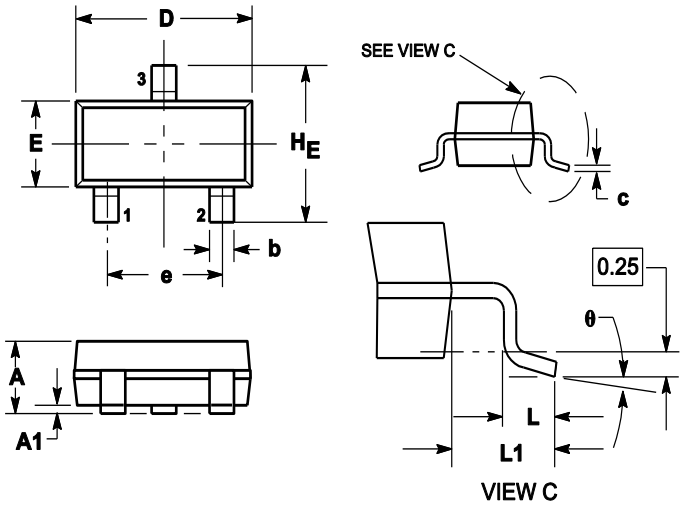


VGSth vs. Tj



Capacitance

8.OUTLINE AND DIMENSIONS



Notes:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: MILLIMETERS.
3. MAXIMUM LEAD THICKNESS INCLUDES LEAD FINISH. MINIMUM LEAD THICKNESS IS THE MINIMUM THICKNESS OF BASE MATERIAL.
4. DIMENSIONS D AND E DO NOT INCLUDE MOLD FLASH, PROTRUSIONS OR GATE BURRS.

	MILLIMETERS			INCHES		
DIM	MIN	NOM	MAX	MIN	NOM	MAX
A	0.89	1	1.11	0.035	0.04	0.044
A1	0.01	0.06	0.1	0.001	0.002	0.004
b	0.37	0.44	0.5	0.015	0.018	0.02
c	0.09	0.13	0.18	0.003	0.005	0.007
D	2.80	2.9	3.04	0.11	0.114	0.12
E	1.20	1.3	1.4	0.047	0.051	0.055
e	1.78	1.9	2.04	0.07	0.075	0.081
L	0.10	0.2	0.3	0.004	0.008	0.012
L1	0.35	0.54	0.69	0.014	0.021	0.029
H_E	2.10	2.4	2.64	0.083	0.094	0.104
θ	0°	---	10°	0°	---	10°

9.SOLDERING FOOTPRINT