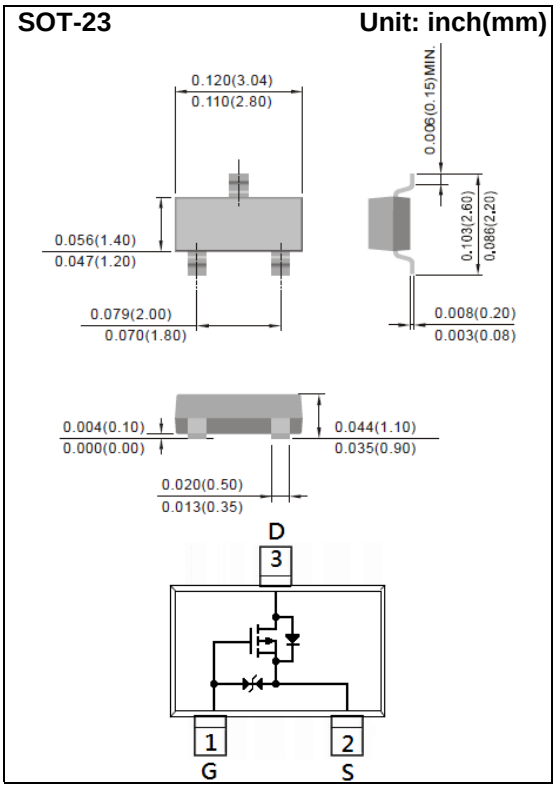
PJA3435

20V P-Channel Enhancement Mode MOSFET – ESD Protected

Voltage	-20 V	Current	-0.5A



Features

- Low Voltage Drive (1.2V).
- Advanced Trench Process Technology
- Specially Designed for Load switch, PWM Application, etc.
- ESD Protected
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 standard

Mechanical Data

- Case : SOT-23 Package
- Terminals : Solderable per MIL-STD-750, Method 2026
- Approx. Weight : 0.0084 grams
- Marking : A35

Maximum Ratings and Thermal Characteristics (T_A=25°C unless otherwise noted)

PARAMETER		SYMBOL	LIMIT	UNITS
Drain-Source Voltage		V_{DS}	-20	V
Gate-Source Voltage		V_{GS}	±10	V
Continuous Drain Current		I_D	-0.5	A
Pulsed Drain Current(Note 4)		I_{DM}	-1.0	A
Power Dissipation	T_a=25°C	P_D	500	mW
	Derate above 25°C		4	mW/°C
Operating Junction and Storage Temperature Range		T_J,T_{STG}	-55~150	°C
Typical Thermal Resistance - Junction to Ambient(Note 3)		$R_{\theta JA}$	250	°C/W

PJA3435

Electrical Characteristics (T_A=25°C unless otherwise noted)

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNITS
Static						
Drain-Source Breakdown Voltage	BV_{DSS}	V_{GS}=0V, I_D=-250uA	-20	-	-	V
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS}, I_D=-250uA	-0.3	-0.59	-1.0	V
Drain-Source On-State Resistance	$R_{DS(on)}$	V_{GS}=-4.5V, I_D=-0.5A	-	0.85	1.2	Ω
		V_{GS}=-2.5V, I_D=-0.2A	-	0.98	1.5	
		V_{GS}=-1.8V, I_D=-0.1A	-	1.15	2.2	
		V_{GS}=-1.5V, I_D=-0.05A	-	1.33	3.6	
		V_{GS}=-1.2V, I_D=-0.01A	-	1.5	6.0	
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=-16V, V_{GS}=0V	-	-0.01	-1	uA
Gate-Source Leakage Current	I_{GSS}	V_{GS}=±8V, V_{DS}=0V	-	±2	±10	uA
Dynamic(Note 5)						
Total Gate Charge	Q_g	V_{DS}=-10V, I_D=-0.5A, V_{GS}=-4.5V(Note 1,2)	-	1.4	-	nC
Gate-Source Charge	Q_{gs}		-	0.19	-	
Gate-Drain Charge	Q_{gd}		-	0.2	-	
Input Capacitance	Ciss	V_{DS}=-10V, V_{GS}=0V, f=1.0MHZ	-	38	-	pF
Output Capacitance	Coss		-	15	-	
Reverse Transfer Capacitance	Crss		-	9	-	
Turn-On Delay Time	$td_{(on)}$	V_{DD}=-10V, I_D=-0.5A, V_{GS}=-4.5V, R_G=6Ω(Note 1,2)	-	7.2	-	ns
Turn-On Rise Time	tr		-	21	-	
Turn-Off Delay Time	$td_{(off)}$		-	85	-	
Turn-Off Fall Time	tf		-	116	-	
Drain-Source Diode						
Maximum Continuous Drain-Source Diode Forward Current	I_S	---	-	-	-0.5	A
Diode Forward Voltage	V_{SD}	I_S=-0.5A, V_{GS}=0V	-	-0.93	-1.3	V

NOTES :

1. Pulse width≤300us, Duty cycle≤2%.
2. Essentially independent of operating temperature typical characteristics.
3. $R_{\Theta JA}$ is the sum of the junction-to-case and case-to-ambient thermal resistance where the case thermal reference is defined as the solder mounting surface of the drain pins mounted on a 1 inch FR-4 with 2oz. square pad of copper.
4. The maximum current rating is package limited.
5. Guaranteed by design, not subject to production testing.

PJA3435

TYPICAL CHARACTERISTIC CURVES

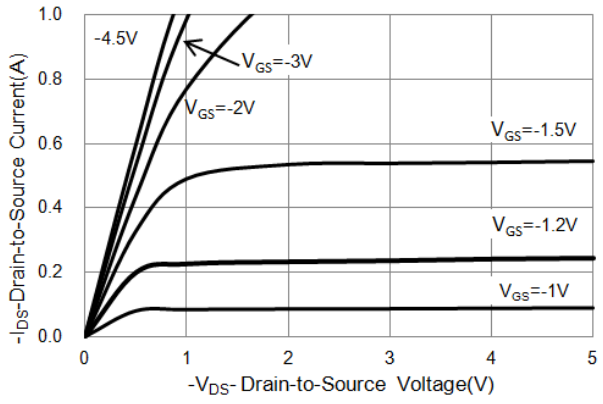


Fig.1 On-Region Characteristics

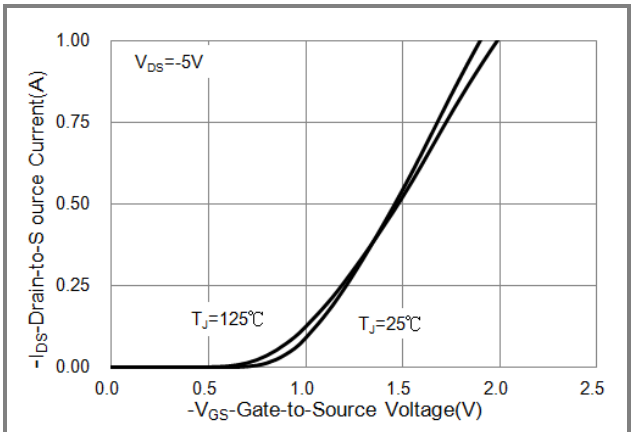


Fig.2 Transfer Characteristics

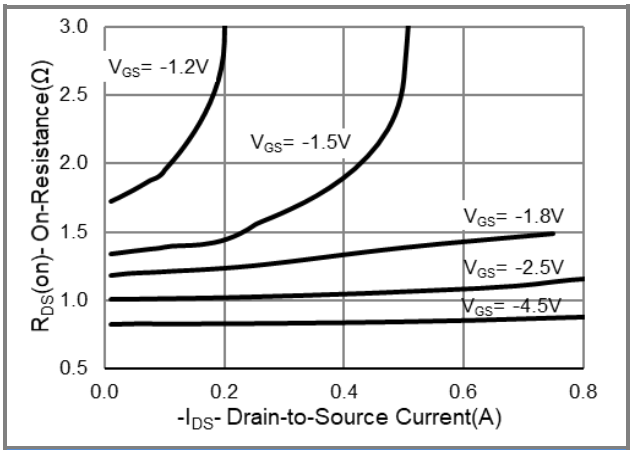


Fig.3 On-Resistance vs. Drain Current

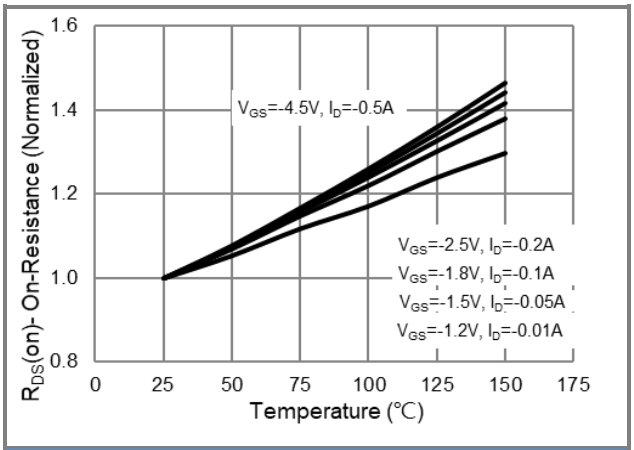


Fig.4 On-Resistance vs. Junction temperature

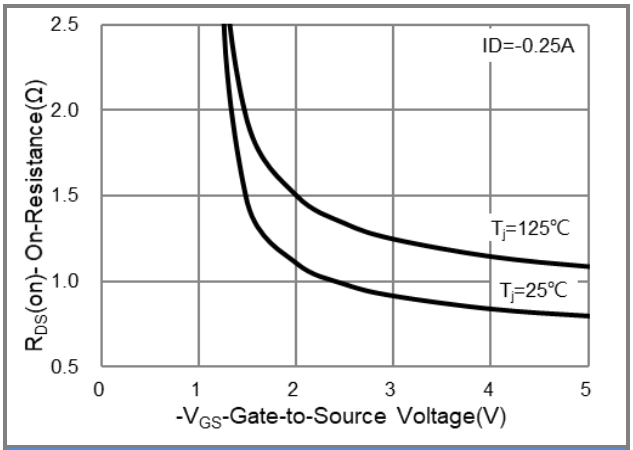


Fig.5 On-Resistance Variation with VGS.

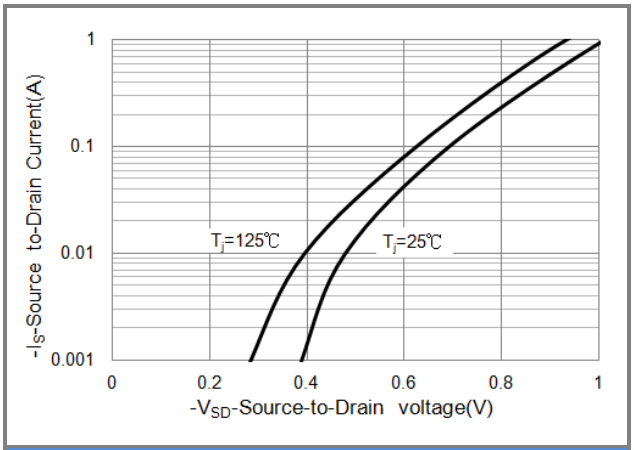


Fig.6 Body Diode Characteristics

TYPICAL CHARACTERISTIC CURVES

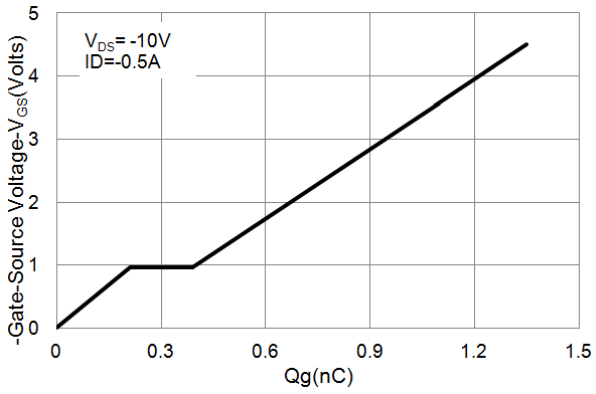


Fig.7 Gate-Charge Characteristics

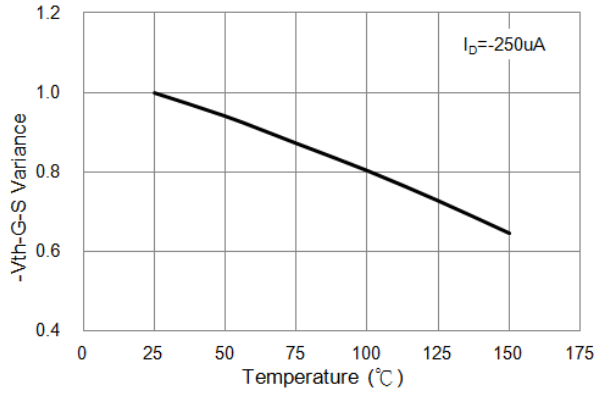


Fig.8 Threshold Voltage Variation with Temperature.

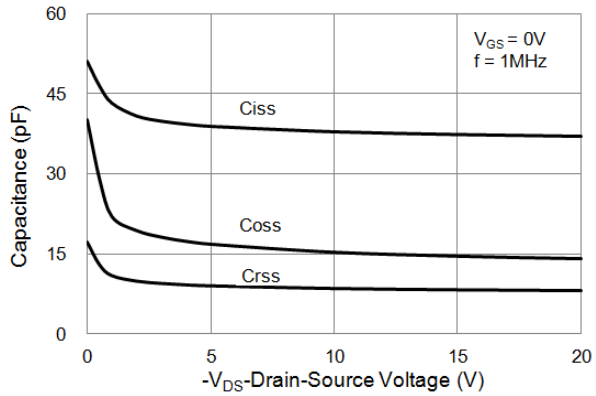


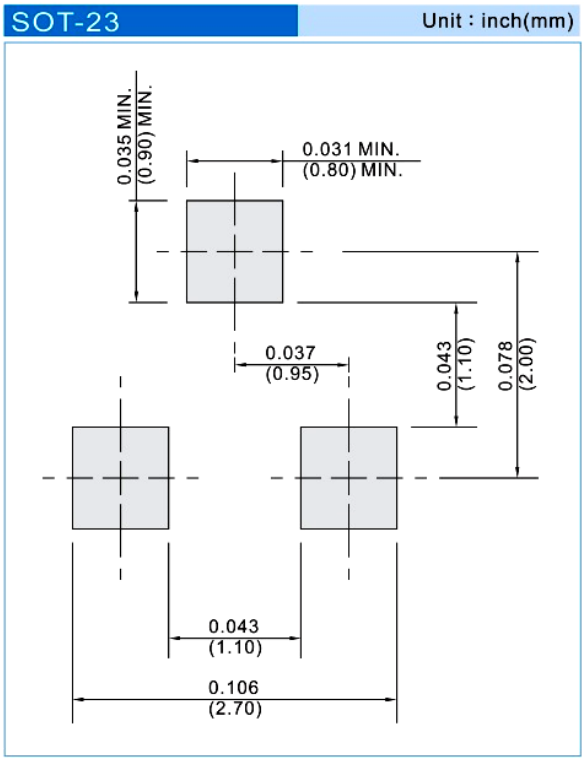
Fig.9 Capacitance vs. Drain-Source Voltage.

PJA3435

Product and Packing Information

Part No.	Package Type	Packing Type	Marking
PJA3435	SOT-23	3K pcs / 7” reel	A35
PJA3435	SOT-23	12K pcs / 13” reel	A35

Mounting Pad Layout



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