

PJ2306

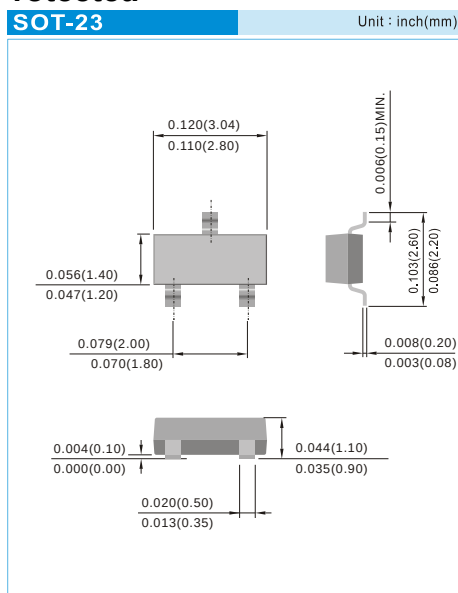
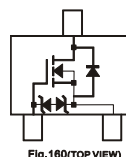
30V N-Channel Enhancement Mode MOSFET-ESD Protected

Features

- $R_{DS(ON)}, V_{GS}@10V, I_{DS}@3.2A=65m\Omega$
- $R_{DS(ON)}, V_{GS}@4.5V, I_{DS}@2.8A=85m\Omega$
- Advanced Trench Process Technology
- High Density Cell Design For Ultra Low On-Resistance
- Very Low Leakage Current In Off Condition
- Specially Designed for Load Switch, PWM Applications
- ESD Protected
- Lead free in compliance with EU RoHS 2011/65/EU directive.
- Green molding compound as per IEC61249 Std..(Halogen Free)

Mechanical Data

- Case: SOT-23 Package
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 0.0003 ounces, 0.084 grams
- Marking: 06



Maximum Ratings and Thermal Characteristics ($T_A=25^\circ\text{C}$ unless otherwise noted)

PARAMETER		SYMBOL	LIMIT	UNITS
Drain-Source Voltage		V_{DS}	30	V
Gate-Source Voltage		V_{GS}	± 20	V
Continuous Drain Current		I_D	3.2	A
Pulsed Drain Current ¹⁾		I_{DM}	16	A
Maximum Power Dissipation	$T_A=25^\circ\text{C}$	P_D	1.25	W
	$T_A=75^\circ\text{C}$		0.75	W
Operating Junction and Storage Temperature Range		T_J, T_{STG}	-55 to +150	$^\circ\text{C}$
Junction to Ambient Thermal Resistance (PCB mounted) ²⁾		$R_{\theta JA}$	100	$^\circ\text{C/W}$

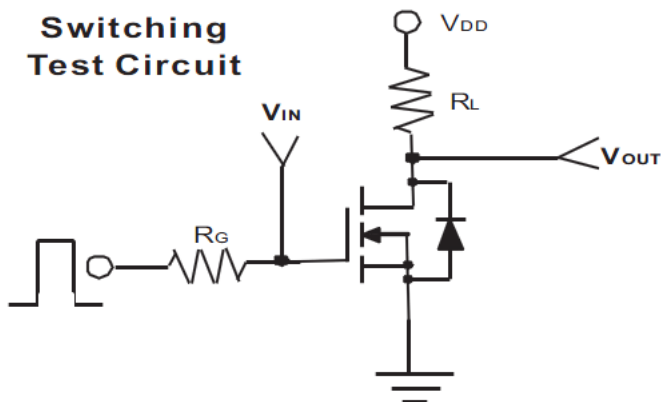
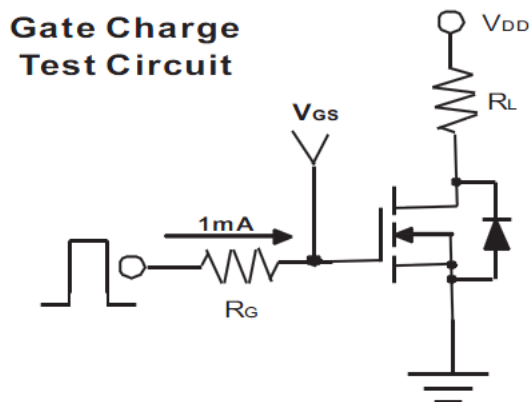
Note:1. Maximum DC current limited by the package
 2. Surface mounted on FR4 board, $t \leq 5$ sec

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Electrical Characteristics

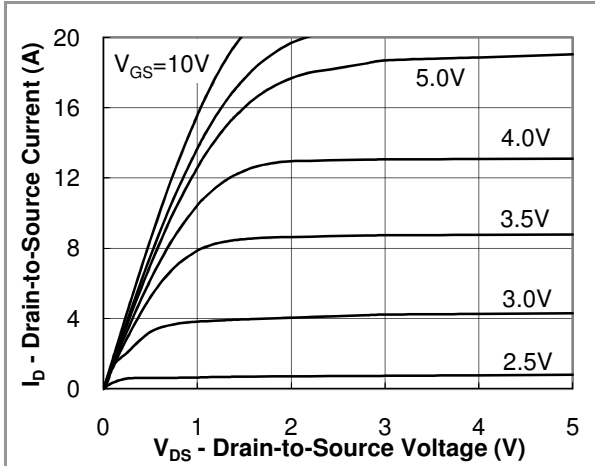
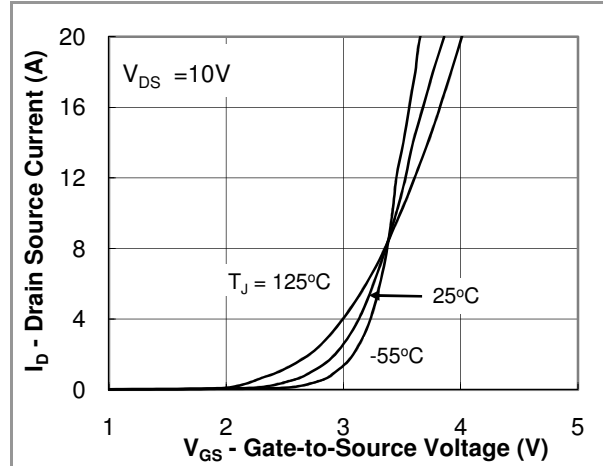
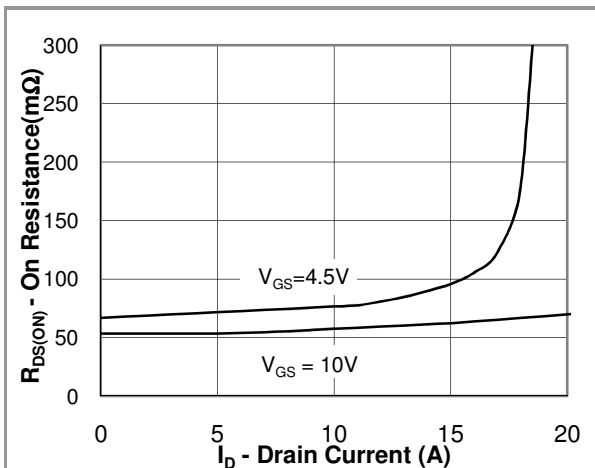
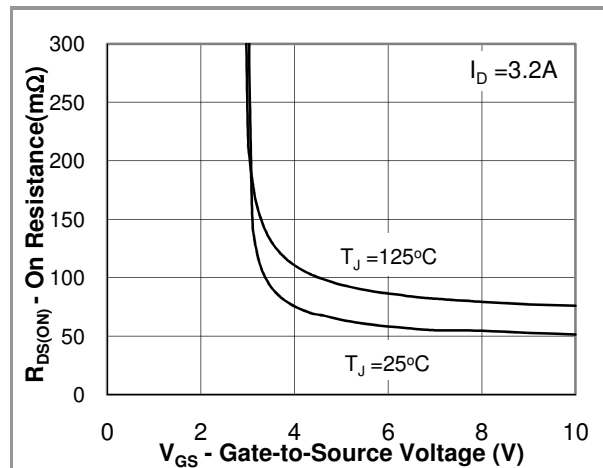
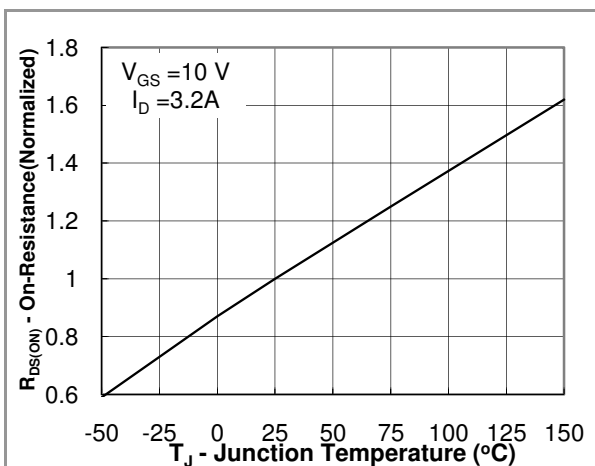
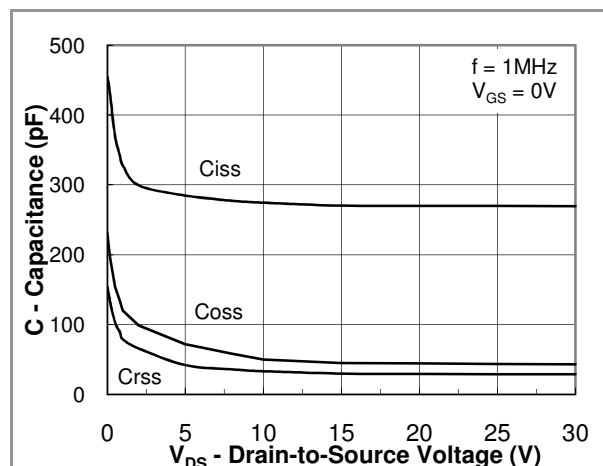
PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNITS
Static						
Drain-Source Breakdown Voltage	BV_{DSS}	$V_{GS}=0V, I_D=250\mu A$	30	-	-	V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\mu A$	1	-	2.5	V
Drain-Source On-State Resistance	$R_{DS(on)}$	$V_{GS}=4.5V, I_D=2.8A$	-	72	85	mΩ
		$V_{GS}=10V, I_D=3.2A$	-	55	65	
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=24V, V_{GS}=0V$	-	-	1	μA
Gate-Source Leakage Current	I_{GSS}	$V_{GS}=\pm 16V, V_{DS}=0V$	-	-	± 10	μA
Forward Transconductance	g_{fs}	$V_{GS}=4.5V, I_D=2.8A$	3	-	-	S
Diode Forward Voltage	V_{SD}	$I_S=2.8A, V_{GS}=0V$	-	0.88	1.2	V
Dynamic						
Total Gate Charge	Q_g	$V_{DS}=15V, I_D=3.2A,$ $V_{DS}=5V$	-	2.8	3.5	nC
Gate-Source Charge	Q_{gs}	$V_{DS}=15V, I_D=3.2A,$ $V_{GS}=10V$	-	5	6.5	
Gate-Drain Charge	Q_{gd}		-	0.5	-	
Turn-On Delay Time	$t_{d(on)}$	$V_{DD}=15V, R_L=15\Omega$ $I_D=1A, V_{GEN}=10V,$ $R_G=6\Omega$	-	8.6	11.2	ns
Turn-On Rise Time	t_r		-	12.8	16.8	
Turn-Off Delay Time	$t_{d(off)}$		-	18.6	26	
Turn-Off Fall Time	t_f		-	1.9	2.6	
Input Capacitance	C_{iss}	$V_{DS}=15V, V_{GS}=0V$ $f=1MHz$	-	270	-	pF
Output Capacitance	C_{oss}		-	45	-	
Reverse Transfer Capacitance	C_{rss}		-	30	-	

NOTES : Plus Test : Pluse Width $\leq 300\mu s$, Duty Cycle $\leq 2\%$.



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Typical Characteristics Curves ($T_a=25^{\circ}\text{C}$, unless otherwise noted)



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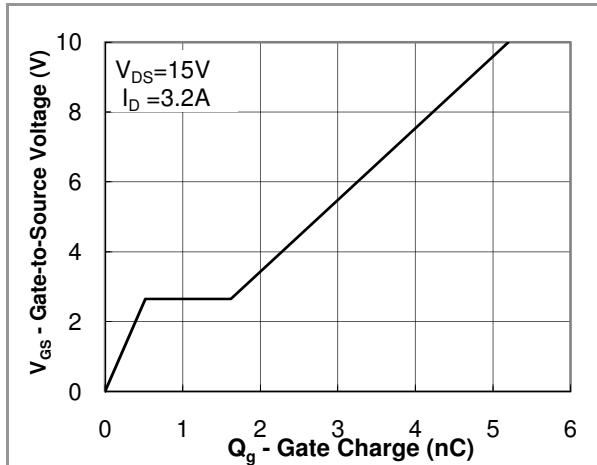


Fig. 7 Gate Charge Waveform

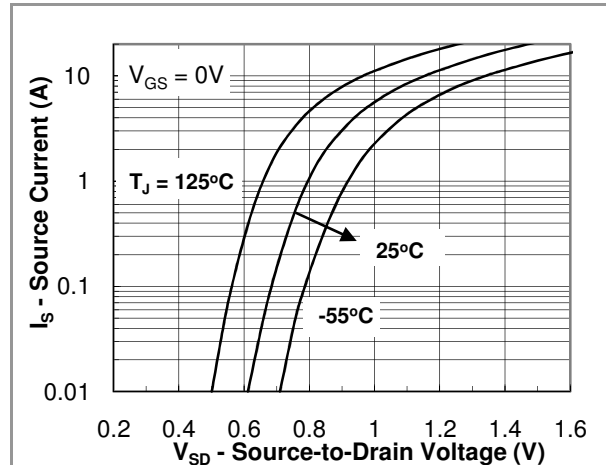


Fig. 8 Source-Drain Diode Forward Voltage

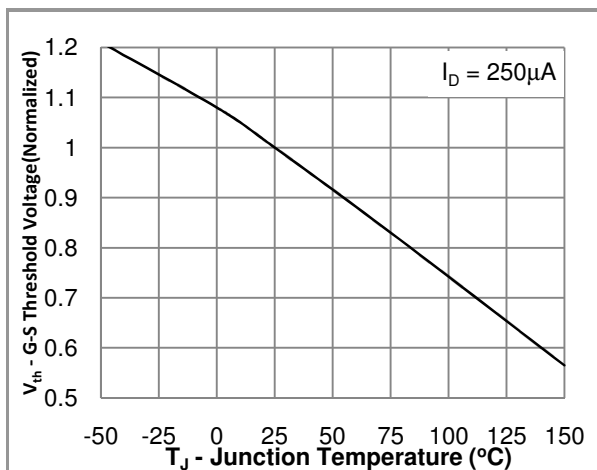


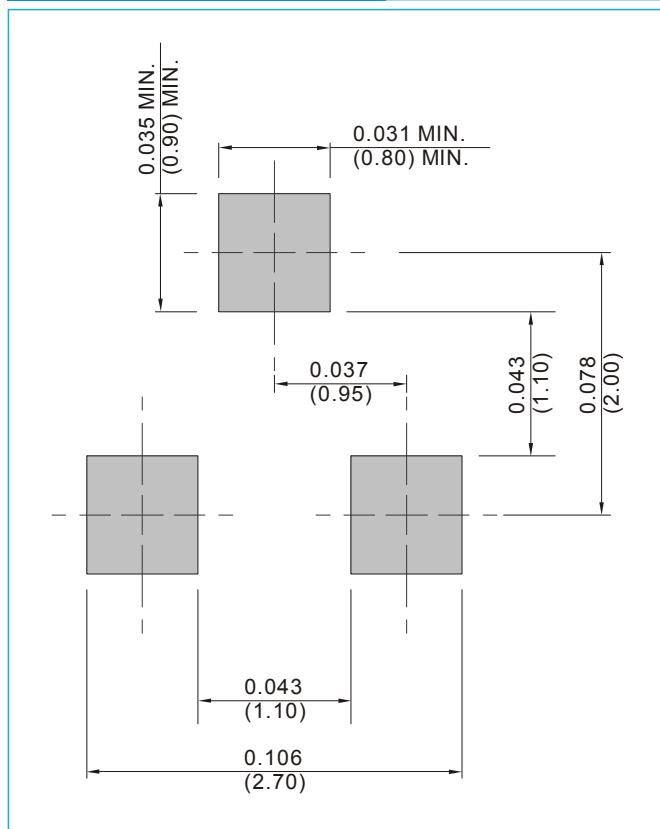
Fig. 9 Breakdown Voltage vs Junction Temperature

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MOUNTING PAD LAYOUT

SOT-23

Unit : Inch(mm)



ORDER INFORMATION

- Packing information
 - T/R - 12K per 13" plastic Reel
 - T/R - 3K per 7" plastic Reel

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Part No_packing code_Version

PJ2306_R1_00001

PJ2306_R2_00001

For example :

RB500V-40_R2_00001

Part No.

Serial number

Version code means HF

Packing size code means 13"

Packing type means T/R

Packing Code XX				Version Code XXXXX		
Packing type	1 st Code	Packing size code	2 nd Code	HF or RoHS	1 st Code	2 nd ~5 th Code
Tape and Ammunition Box (T/B)	A	N/A	0	HF	0	serial number
Tape and Reel (T/R)	R	7"	1	RoHS	1	serial number
Bulk Packing (B/P)	B	13"	2			
Tube Packing (T/P)	T	26mm	X			
Tape and Reel (Right Oriented) (TRR)	S	52mm	Y			
Tape and Reel (Left Oriented) (TRL)	L	PANASERT T/B CATHODE UP (PBCU)	U			
FORMING	F	PANASERT T/B CATHODE DOWN (PBCD)	D			



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