



60V P-Channel Enhancement Mode MOSFET

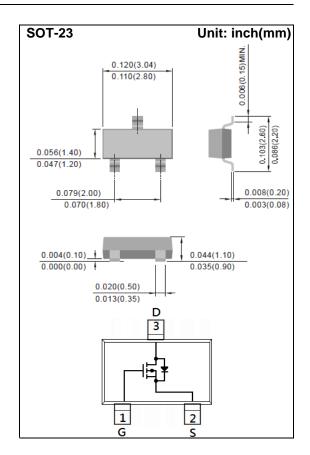
Voltage -60 V Current -2.5A

Features

- $R_{DS(ON)}$, V_{GS} @-10V, I_{D} @-2.5A<110m Ω
- $R_{DS(ON)}$, $V_{GS}@-4.5V$, $I_D@-1.5A<130m\Omega$
- Advanced Trench Process Technology
- Specially Designed for Switch Load, PWM Application, etc
- 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: 0.0003 ounces, 0.0084 grams



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

PARAMETER		SYMBOL	LIMIT	UNITS	
Drain-Source Voltage		V _{DS}	-60	V	
Gate-Source Voltage		V_{GS}	<u>+</u> 20		
Continuous Drain Current (Note 4)		I _D	-2.5	A	
Pulsed Drain Current (Note 1)		I _{DM}	-10		
Power Dissipation	T _a =25°C	P _D	1.25	W	
	Derate above 25°C		10	mW/°C	
Operating Junction and Storage Temperature Range		T_{J} , T_{STG}	-55~150	°C	
Typical Thermal Resistance - Junction to Ambient (Note 3)		$R_{ heta JA}$	100	°C/W	





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	-60	-	-	V	
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$, $I_{D}=-250uA$	-1	-1.7	-2.5		
Drain-Source On-State Resistance	R _{DS(on)}	V _{GS} =-10V, I _D =-2.5A	-	87	110	mΩ	
		V _{GS} =-4.5V, I _D =-1.5A	-	110	130		
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =-60V, V _{GS} =0V	-	-	-1	uA	
Gate-Source Leakage Current	I _{GSS}	V _{GS} = <u>+</u> 20V, V _{DS} =0V	-	-	<u>+</u> 100	nA	
Dynamic (Note 5)							
Total Gate Charge	Q_{g}	V_{DS} =-30V, I_{D} =-3A, V_{GS} =-10V (Note 1.2)	-	10	-	nC	
Gate-Source Charge	Q_gs		-	1.6	-		
Gate-Drain Charge	Q_gd		-	3	-		
Input Capacitance	Ciss	\/ 00\/ \/ 0\/	-	785	-	pF	
Output Capacitance	Coss	V_{DS} =-30V, V_{GS} =0V, f =1MHZ	-	175	-		
Reverse Transfer Capacitance	Crss		-	112	-		
Turn-On Delay Time	td _(on)	V_{DS} =-30V, R_L =30 Ω V_{GS} =-10V, R_G =6.2 Ω (Note 1,2)	-	8	-	ns	
Turn-On Rise Time	tr		-	15	-		
Turn-Off Delay Time	td _(off)		-	43	-		
Turn-Off Fall Time	tf		-	8.4	-		
Drain-Source Diode							
Maximum Continuous Drain-Source					4.5	А	
Diode Forward Current	I _S		-	-	-1.5		
Diode Forward Voltage	V_{SD}	I _S =-1A, V _{GS} =0V	-	-0.75	-1	V	

NOTES:

- 1. Pulse width<a>300us, Duty cycle<a>2%.
- 2. Essentially independent of operating temperature typical characteristics.
- 3. Rejah 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.





TYPICAL CHARACTERISTIC CURVES

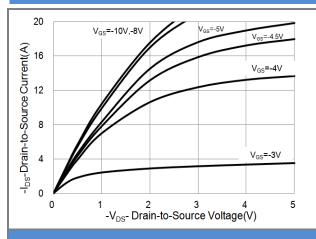


Fig.1 On-Region Characteristics

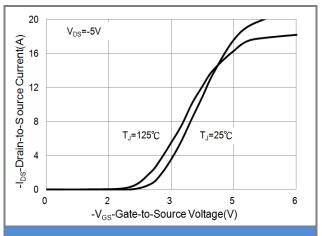


Fig.2 Transfer Characteristics

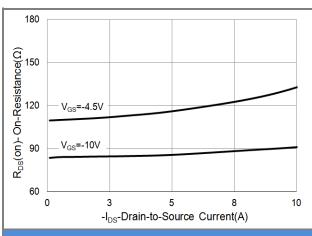


Fig.3 On-Resistance vs. Drain Current

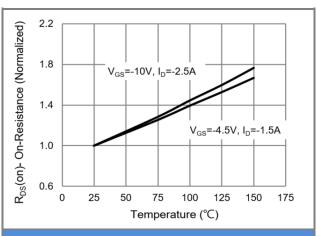


Fig.4 On-Resistance vs. Junction temperature

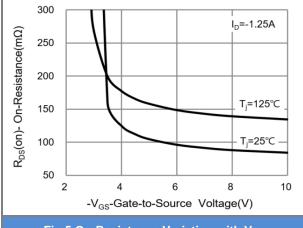


Fig.5 On-Resistance Variation with V_{GS}

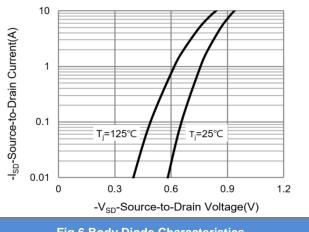


Fig.6 Body Diode Characteristics





TYPICAL CHARACTERISTIC CURVES

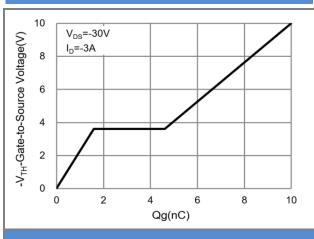


Fig.7 Gate-Charge Characteristics

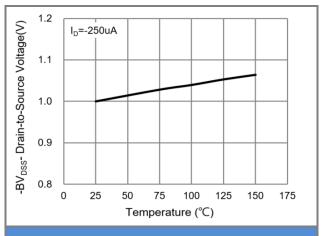


Fig.8 Breakdown Voltage Variation vs. Temperature

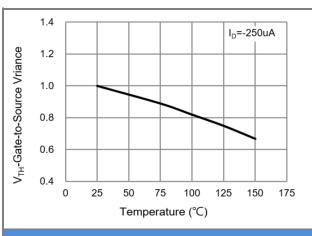


Fig.9 Threshold Voltage Variation with Temperature

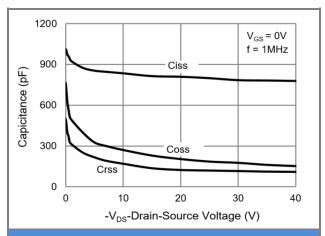


Fig.10 Capacitance vs. Drain-Source Voltage

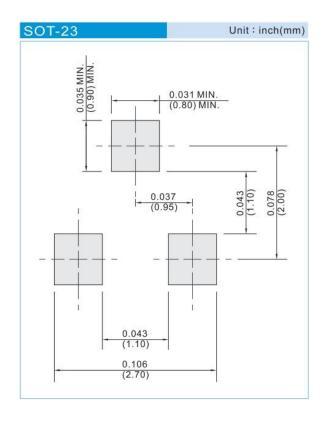




Part No Packing Code Version

Part No Packing Code	Package Type	Packing Type	Marking	Version
PJA3463_R1_00001	SOT-23	3K pcs / 7" reel	A63	Halogen free

Mounting Pad Layout







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