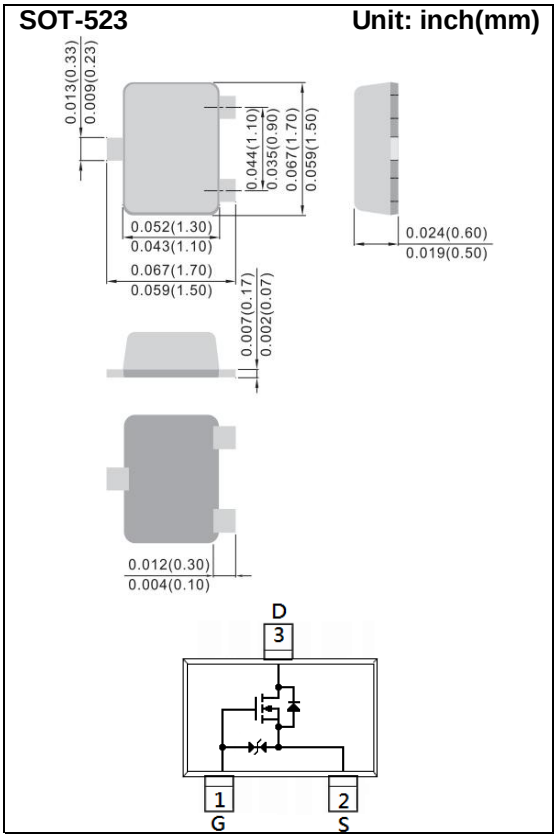
PJE8408

20V N-Channel Enhancement Mode MOSFET

Voltage	20 V	Current	500mA



Features

- Low Voltage Drive (1.2V).
- Advanced Trench Process Technology
- Specially Designed for Switch Load, PWM Application, etc.
- 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-523 Package
- Terminals : Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 0.00007 ounces, 0.002 grams
- Marking: E08

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	500	mA
Pulsed Drain Current (Note 4)		I_{DM}	1000	mA
Power Dissipation	T_a=25°C	P_D	300	mW
	Derate above 25°C		2.4	mW/°C
Operating Junction and Storage Temperature Range		T_J,T_{STG}	-55~150	°C
Typical Thermal resistance - Junction to Ambient (Note 3)		$R_{\theta JA}$	417	°C/W

PJE8408

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	0.64	0.9	V
Drain-Source On-State Resistance	$R_{DS(on)}$	V_{GS}=4.5V, I_D=500mA	-	310	400	mΩ
		V_{GS}=2.5V, I_D=200mA	-	360	650	
		V_{GS}=1.8V, I_D=100mA	-	430	800	
		V_{GS}=1.5V, I_D=50mA	-	510	1200	
		V_{GS}=1.2V, I_D=20mA	-	710	3000	
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=16V, V_{GS}=0V	-	-	1	uA
Gate-Source Leakage Current	I_{GSS}	V_{GS}=±8V, V_{DS}=0V	-	±0.5	±10	uA
Dynamic (Note 5)						
Total Gate Charge	Q_g	V_{DS}=10V, I_D=500mA, V_{GS}=4.5V (Note 1,2)	-	1.4	-	nC
Gate-Source Charge	Q_{gs}		-	0.22	-	
Gate-Drain Charge	Q_{gd}		-	0.21	-	
Input Capacitance	Ciss	V_{DS}=10V, V_{GS}=0V, f=1.0MHZ	-	67	-	pF
Output Capacitance	Coss		-	19	-	
Reverse Transfer Capacitance	Crss		-	6	-	
Turn-On Delay Time	$td_{(on)}$	V_{DD}=10V, I_D=150mA, V_{GS}=4.0V, R_G=10Ω (Note 1,2)	-	2.8	-	ns
Turn-On Rise Time	tr		-	20	-	
Turn-Off Delay Time	$td_{(off)}$		-	23	-	
Turn-Off Fall Time	tf		-	23	-	
Drain-Source Diode						
Maximum Continuous Drain-Source Diode Forward Current	I_S	---	-	-	500	mA
Diode Forward Voltage	V_{SD}	I_S=500mA, V_{GS}=0V	-	0.87	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.

PJE8408

TYPICAL CHARACTERISTIC CURVES

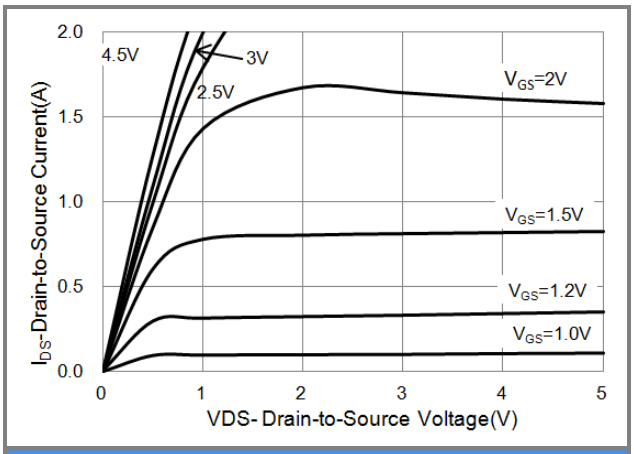


Fig.1 On-Region Characteristics

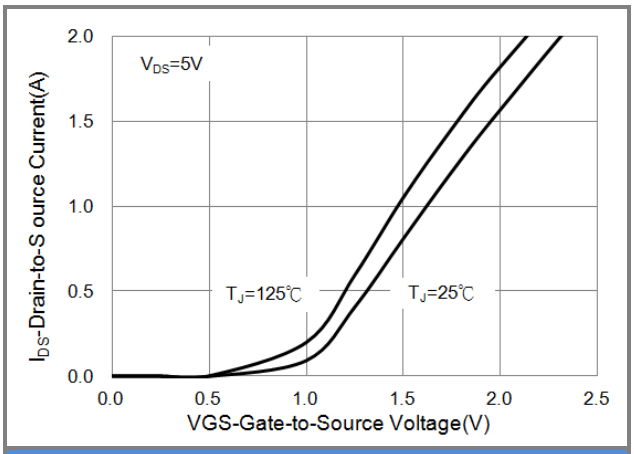


Fig.2 Transfer Characteristics

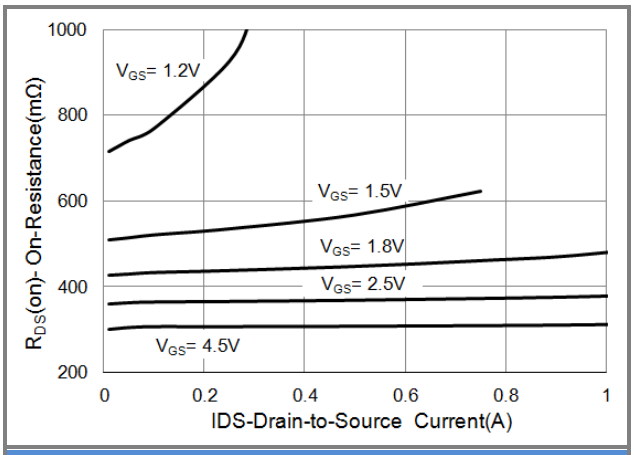


Fig.3 On-Resistance vs. Drain Current

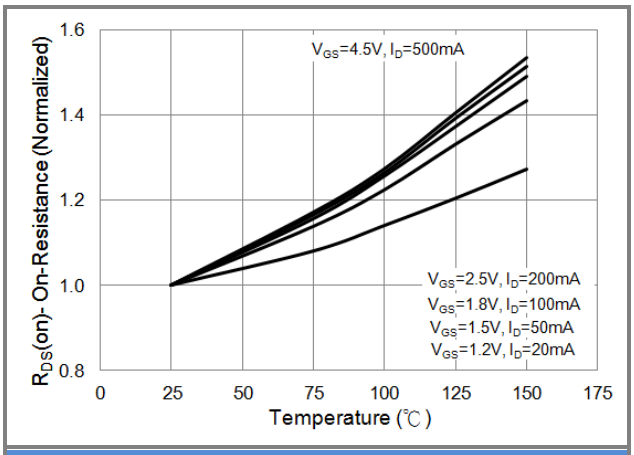


Fig.4 On-Resistance vs. Junction temperature

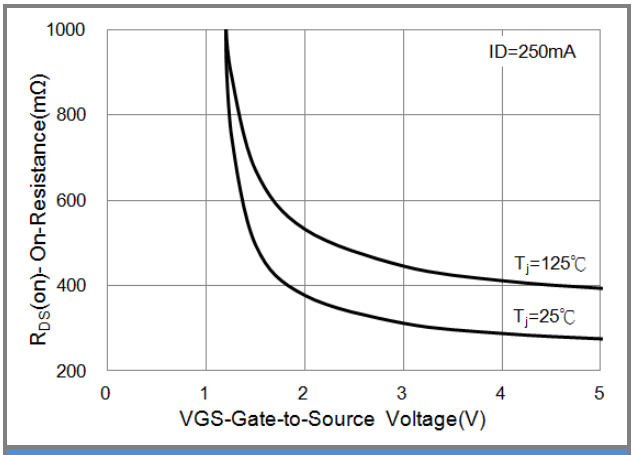


Fig.5 On-Resistance Variation with VGS.

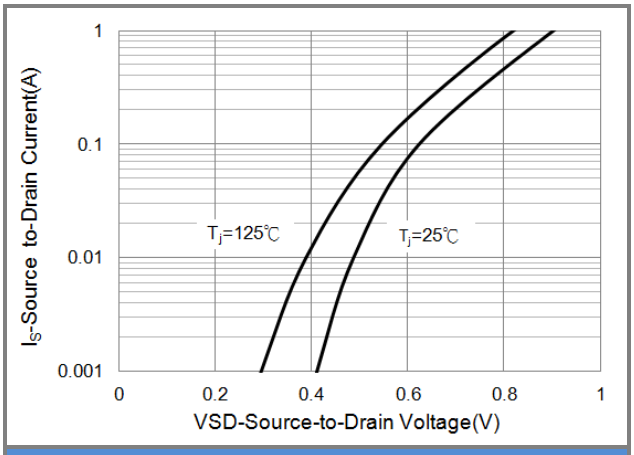


Fig.6 Body Diode Characteristics

PJE8408

TYPICAL CHARACTERISTIC CURVES

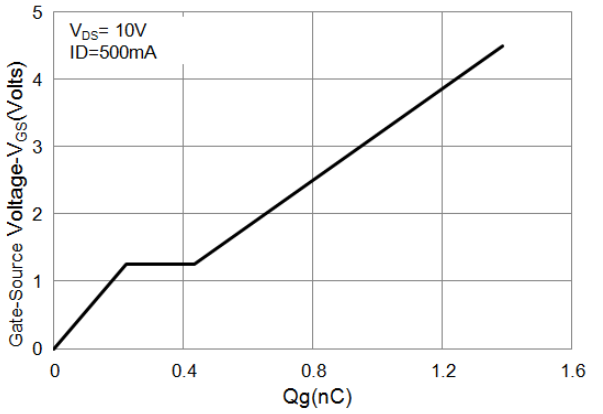


Fig.7 Gate-Charge Characteristics

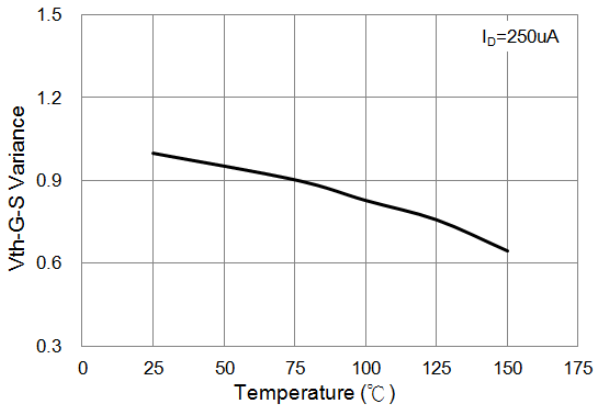


Fig.8 Threshold Voltage Variation with Temperature.

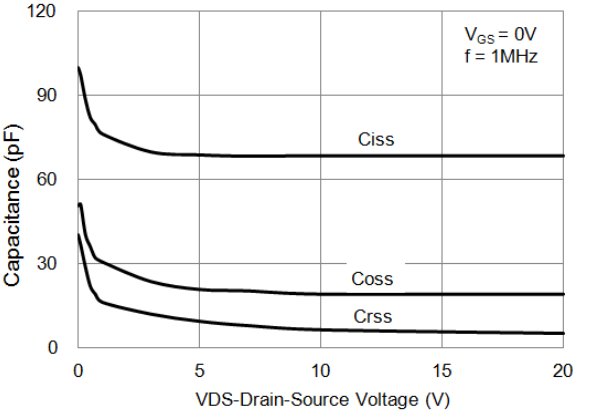


Fig.9 Capacitance vs. Drain-Source Voltage.

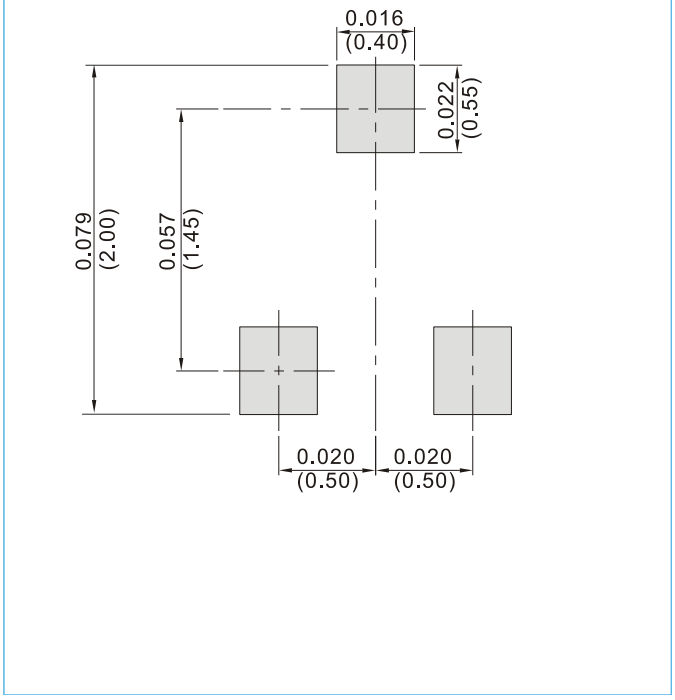
PJE8408

PART NO PACKING CODE VERSION

PART NO PACKING CODE	Package Type	Packing type	Marking	Version
PJE8408_R1_00001	SOT-523	4K pcs / 7” reel	E08	Halogen free

MOUNTING PAD LAYOUT

SOT-523 Unit : inch(mm)



PJE8408

Disclaimer

- Reproducing and modifying information of the document is prohibited without permission from Panjit International Inc..
- Panjit International Inc. reserves the rights to make changes of the content herein the document anytime without notification. Please refer to our website for the latest document.
- Panjit International Inc. disclaims any and all liability arising out of the application or use of any product including damages incidentally and consequentially occurred.
- Panjit International Inc. does not assume any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.
- Applications shown on the herein document are examples of standard use and operation. Customers are responsible in comprehending the suitable use in particular applications. Panjit International Inc. makes no representation or warranty that such applications will be suitable for the specified use without further testing or modification.
- The products shown herein are not designed and authorized for equipments requiring high level of reliability or relating to human life and for any applications concerning life-saving or life-sustaining, such as medical instruments, transportation equipment, aerospace machinery et cetera. Customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify Panjit International Inc. for any damages resulting from such improper use or sale.
- Since Panjit uses lot number as the tracking base, please provide the lot number for tracking when complaining.

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for MOSFET ***category:***

Click to view products by Panjit ***manufacturer:***

Other Similar products are found below :

614233C 648584F IRFD120 JANTX2N5237 FCA20N60_F109 FDZ595PZ 2SK2545(Q,T) 405094E 423220D TPCC8103,L1Q(CM MIC4420CM-TR VN1206L 614234A 715780A NTNS3166NZT5G SSM6J414TU,LF(T 751625C IPP110N20N3GXK BUK954R8-60E NTE6400 SQJ402EP-T1-GE3 2SK2614(TE16L1,Q) DMN1017UCP3-7 EFC2J004NUZTDG ECH8691-TL-W FCAB21350L1 P85W28HP2F-7071 DMN1053UCP4-7 NTE221 NTE222 NTE2384 NTE2941 NTE2945 NTE2946 NTE2960 NTE2969 NTE2976 NTE6400A NTE2916 NTE2956 NTE2911 DMN2080UCB4-7 TK10A80W,S4X(S STF35N65DM2 STW70N60DM6-4 SSM6P54TU,LF SSM6P69NU,LF DMP22D4UFO-7B DMN1006UCA6-7 DMN16M9UCA6-7