

Features

- Lead Free Finish/RoHS Compliant ("P" Suffix Designates RoHS Compliant. See Ordering Information)
- Epoxy Meets UL 94 V-0 Flammability Rating
- Moisture Sensitivity Level 1
- Halogen Free. "Green" Device (Note1)
- Lead Free Finish/RoHS Compliant ("P" Suffix Designates RoHS Compliant. See Ordering Information)

Maximum Ratings

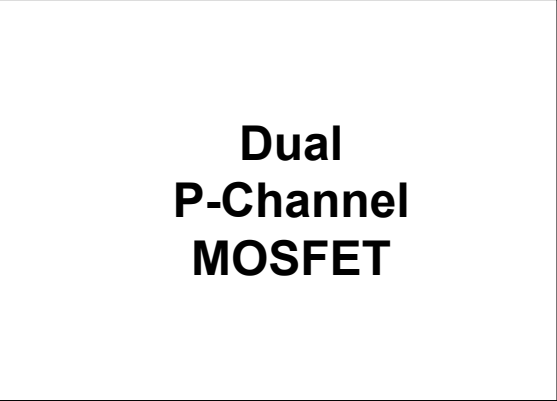
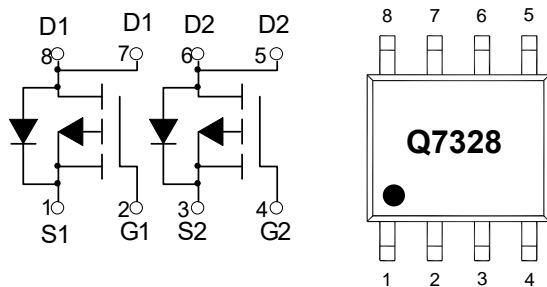
- Operating Junction Temperature Range : -55°C to +150°C
- Storage Temperature Range: -55°C to +150°C
- Thermal Resistance: 89°C/W Junction to Ambient (Note 2)

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	-30	V
Gate-Source Voltage	V_{GS}	±20	V
Drain Current	I_D	-8	A
Pulsed Drain Current (Note 3)	I_{DM}	-32	A
Total Power Dissipation (Note 2)	P_D	1.4	W

Note:

1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
2. The Value of $R_{\theta JA}$ is Measured with the Device Mounted on 1 in² FR-4 Board with 2oz. Copper, in a Still Air Environment with $T_A=25^\circ C$.

Internal Structure and Marking Code



SOP-8

DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.053	0.069	1.35	1.75	
B	0.004	0.010	0.10	0.25	
C	0.053	0.061	1.35	1.55	
D	0.013	0.020	0.33	0.51	
E	0.007	0.010	0.17	0.25	
F	0.185	0.200	4.70	5.10	
G	0.050		1.270		TYP.
H	0.228	0.244	5.80	6.20	
J	0.150	0.157	3.80	4.00	
K	0.016	0.050	0.40	1.27	
θ	0°	8°	0°	8°	

Suggested Solder Pad Layout

Electrical Characteristics @ 25°C (Unless Otherwise Specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Static Characteristics						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS}=0V, I_D=-250\mu A$	-30			V
Gate-Source Leakage Current	I_{GSS}	$V_{DS}=0V, V_{GS}=\pm 20V$			± 100	nA
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=-24V, V_{GS}=0V$			-15	μA
Gate-Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=-250\mu A$	-1.0	-1.5	-2.5	V
Drain-Source On-Resistance ^(Note 3)	$R_{DS(on)}$	$V_{GS}=-10V, I_D=-8A$		19	21	m Ω
		$V_{GS}=-4.5V, I_D=-6.8A$		26	32	
Forward Transconductance	g_{FS}	$V_{DS}=-10V, I_D=-8A$	12			S
Dynamic Characteristics^(Note 4)						
Input Capacitance	C_{iss}	$V_{DS}=-25V, V_{GS}=0V, f=1MHz$		2675		pF
Output Capacitance	C_{oss}			409		
Reverse Transfer Capacitance	C_{rss}			262		
Total Gate Charge	Q_g	$V_{DD}=-15V, V_{GS}=-10V, I_D=-8A$			78	nC
Gate-Source Charge	Q_{gs}			9.8		
Gate-Drain Charge	Q_{gd}			8.3		
Turn-On Delay Time	$t_{d(on)}$	$V_{DD}=-15V, V_{GS}=-10V, I_D=-1A$ $R_G=6\Omega, R_D=15\Omega$			20	ns
Turn-On Rise Time	t_r				23	
Turn-Off Delay Time	$t_{d(off)}$				297	
Turn-Off Fall Time	t_f				147	
Drain-Source Body Diode Characteristics						
Body Diode Voltage ^(Note 3)	V_{SD}	$I_{SD}=-2A, V_{GS}=0V$			-1.2	V

Notes :

- Pulse Test : Pulse Width $\leq 300\mu s$, Duty Cycle $\leq 2\%$.
- Guaranteed by Design, Not Subject to Production Testing.

Curve Characteristics

Fig. 1 - Output Characteristics

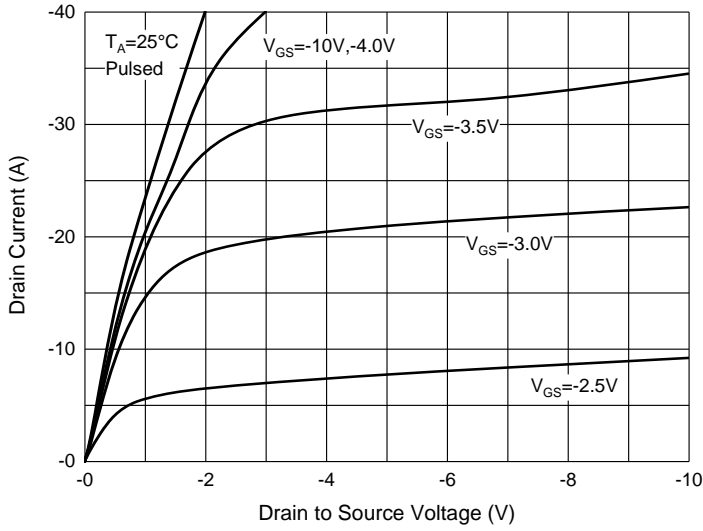


Fig. 2 - Transfer Characteristics

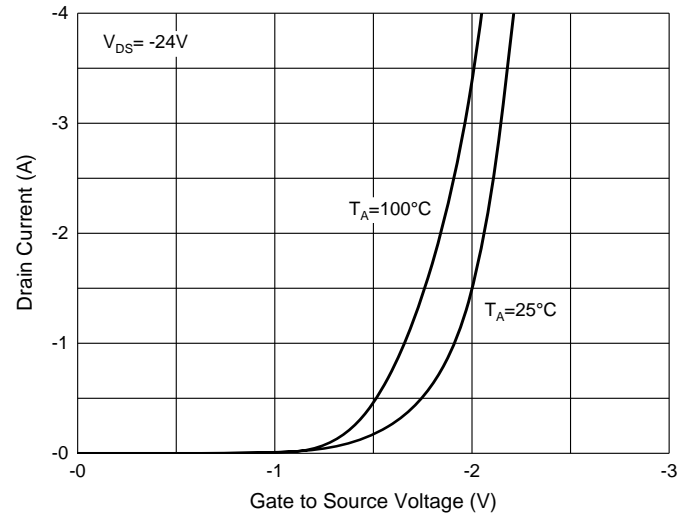


Fig. 3 - $R_{DS(ON)} - I_D$

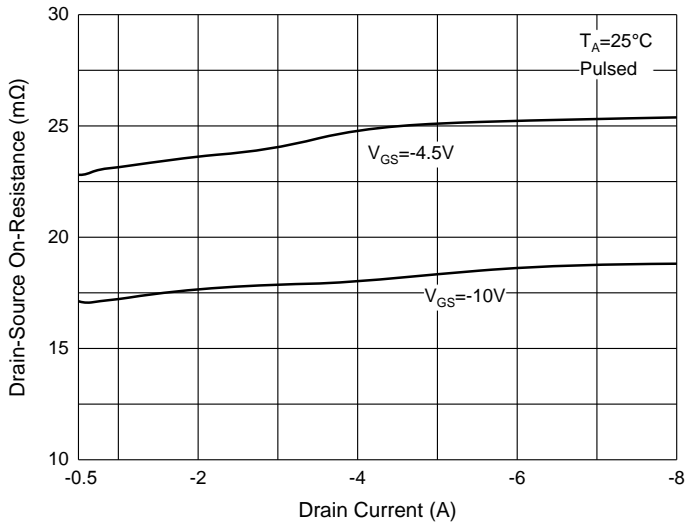


Fig. 4 - $R_{DS(ON)} - V_{GS}$

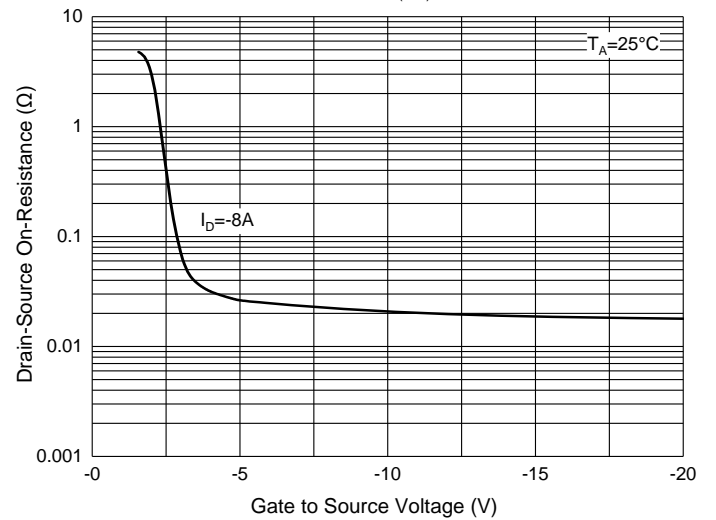


Fig. 5 - $I_S - V_{SD}$

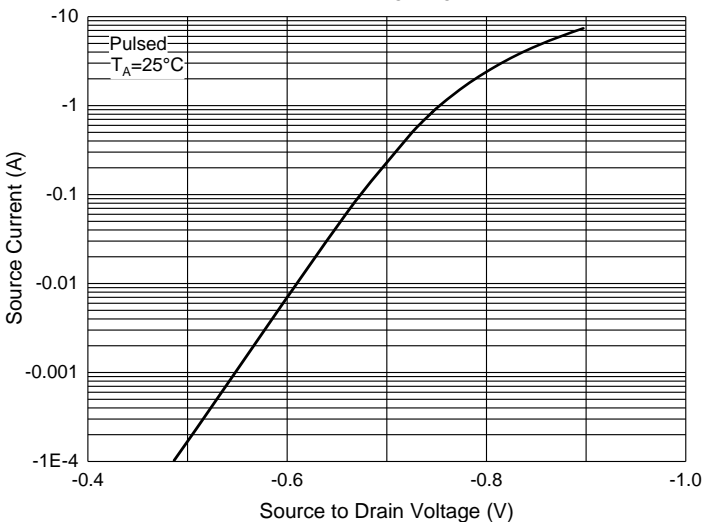
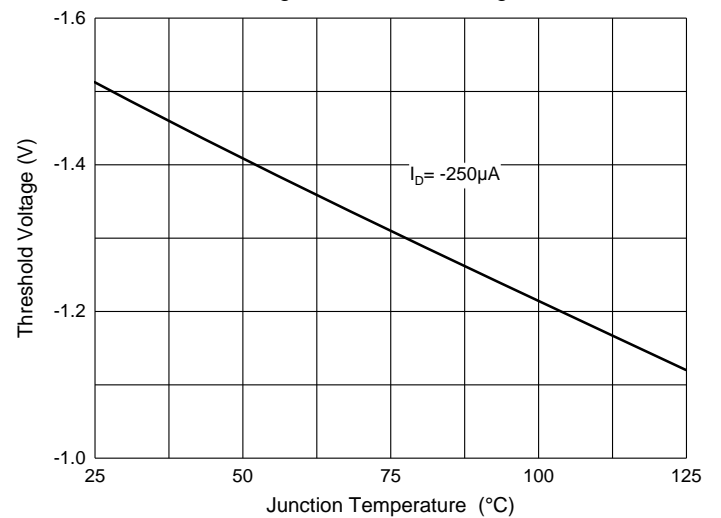


Fig. 6 - Threshold Voltage



Ordering Information

Device	Packing
Part Number-TP	Tape&Reel: 4Kpcs/Reel

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