

Product Summary

$V_{(BR)DSS}$	$R_{DS(on)MAX}$	I_D
-30V	21mΩ@-10V	-8A
	23mΩ@-4.5V	

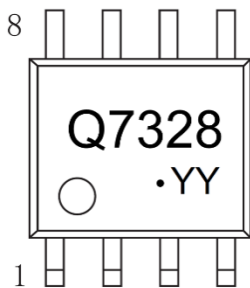
Feature

- Trench Power MOSFET
- Excellent $R_{DS(on)}$
- Low Gate Charge

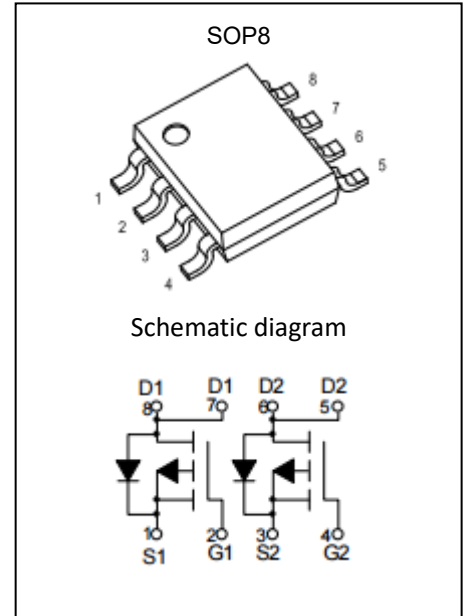
Application

- Load Switch for Portable Devices
- Battery Switch

MARKING:



Q7328 = Device code
 YY = Date Code
 Solid dot = Pin1 indicator
 Solid dot = Green molding compound device, If none, the normal device.



ABSOLUTE MAXIMUM RATINGS ($T_a=25^{\circ}C$ unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	-30	V
Gate-Source Voltage	V_{GS}	± 20	V
Continuous Drain Current	I_D	-8	A
Plused Drain Current ¹	I_{DM}	-32	A
Power Dissipation ²	P_D	2.4	W
Thermal Resistance from Junction to Ambient ²	$R_{\theta JA}$	52	$^{\circ}C/W$
Junction Temperature	T_J	150	$^{\circ}C$
Storage Temperature	T_{STG}	-55~ +150	$^{\circ}C$

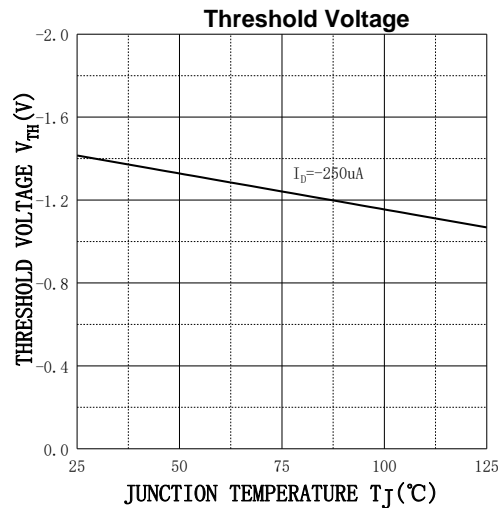
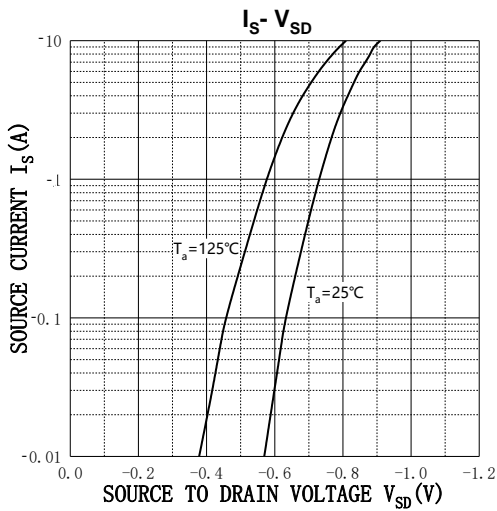
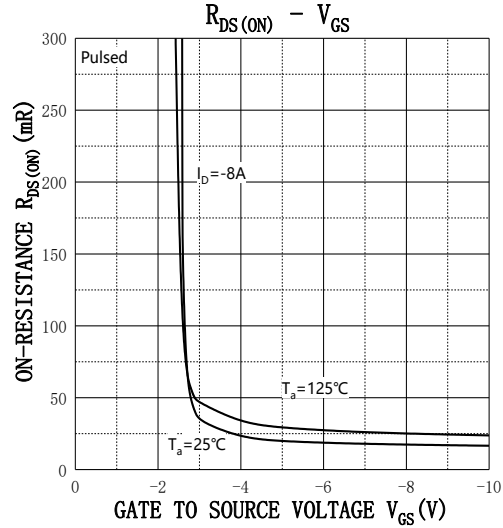
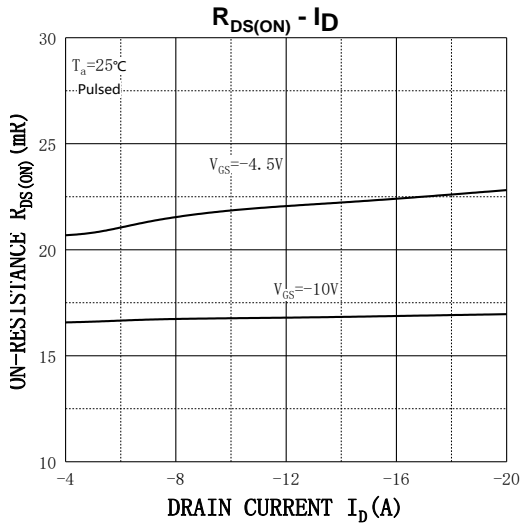
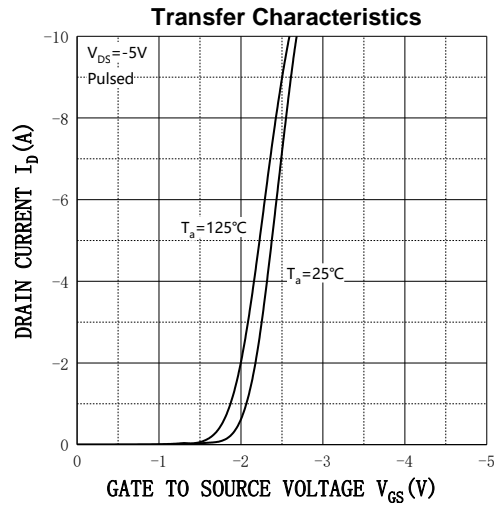
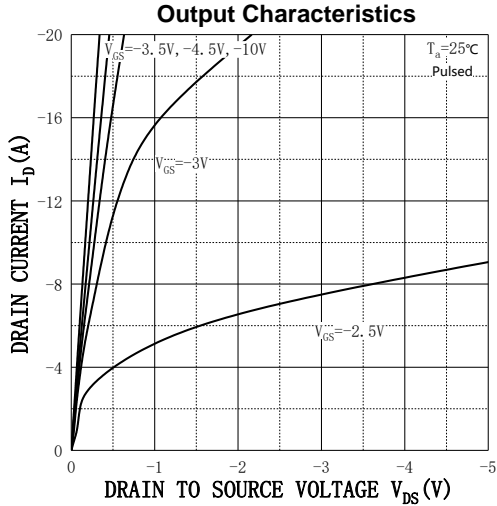
MOSFET ELECTRICAL CHARACTERISTICS (T_a=25°C unless otherwise noted)

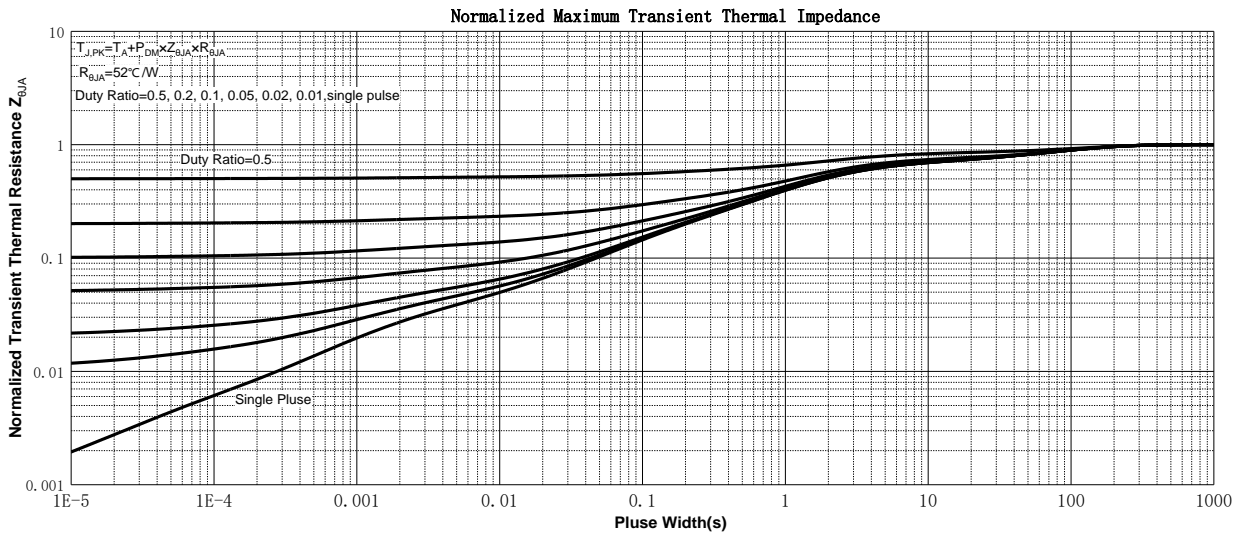
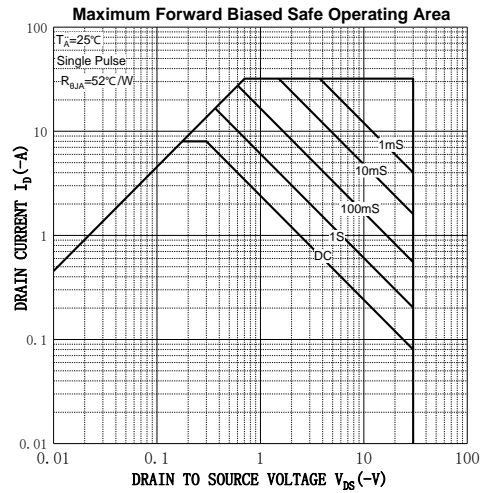
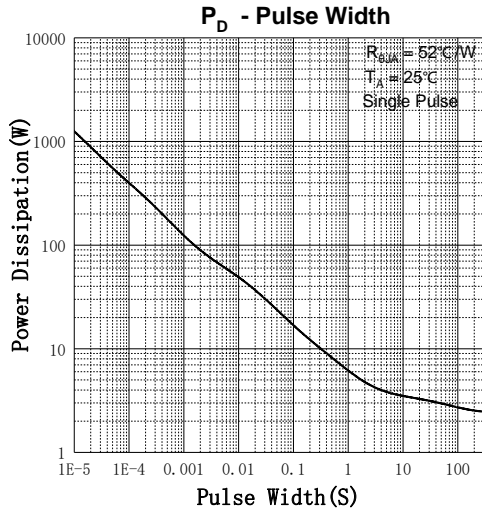
Parameter	Symbol	Test Condition	Min	Type	Max	Unit
Static Characteristics						
Drain-source breakdown voltage	V _{(BR)DSS}	V _{GS} = 0V, I _D = -250μA	-30			V
Zero gate voltage drain current	I _{DSS}	V _{DS} = -24V, V _{GS} = 0V			-1	μA
Gate-body leakage current	I _{GSS}	V _{GS} = ±20V, V _{DS} = 0V			±100	nA
Gate threshold voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = -250μA	-1.0	-1.4	-2.5	V
Drain-source on-resistance ³	R _{DS(on)}	V _{GS} = -10V, I _D = -8A		17	21	mΩ
		V _{GS} = -4.5V, I _D = -6.8A		23	32	
Forward tranconductance	g _{FS}	V _{DS} = -10V, I _D = -8A	10	14		S
Dynamic characteristics⁴						
Input Capacitance	C _{iSS}	V _{DS} = -15V, V _{GS} = 0V, f = 1MHz		1700		pF
Output Capacitance	C _{oss}			235		
Reverse Transfer Capacitance	C _{rSS}			200		
Total gate charge	Q _g	V _{DS} = -15V, V _{GS} = -10V, I _D = -8A			78	nC
Gate-source charge	Q _{gs}				15	
Gate-drain charge	Q _{gd}				13	
Turn-on delay time	t _{d(on)}	V _{DD} = -15V, R _D = 15Ω, I _D = -1A, V _{GNE} = -10V, R _G = 6Ω			20	ns
Turn-on rise time	t _r				23	
Turn-off delay time	t _{d(off)}				250	
Turn-off fall time	t _f				140	
Drain-Source Body Diode Characteristics						
Diode Forward Voltage ³	V _{SD}	I _S = -2A, V _{GS} = 0V		-0.73	-1.2	V

Notes:

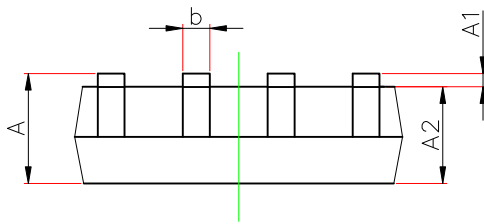
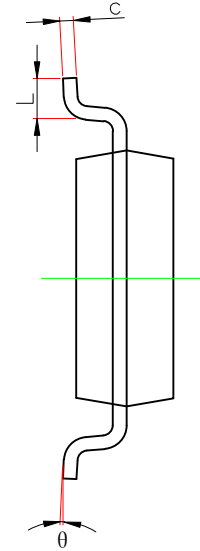
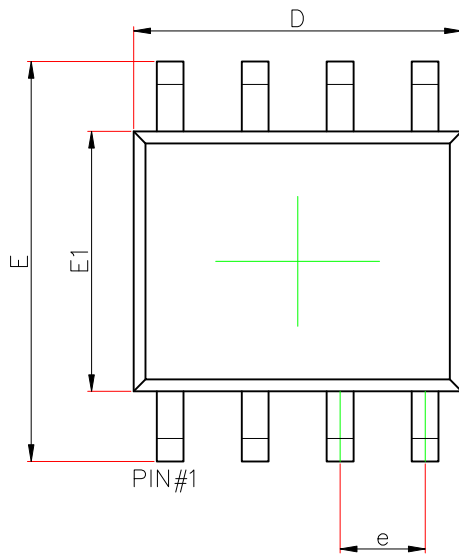
1. Repetitive rating : Pulse width limited by junction temperature.
2. Device mounted on 1in² FR-4 board with 2oz. Copper, in a still air environment with T_A = 25°C. Single side test
3. Pulse Test : Pulse Width ≤ 300μs, Duty Cycle ≤ 2%.
4. Guaranteed by design, not subject to production testing.

Typical Electrical and Thermal Characteristics





SOP8 Package Information



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	1.350	1.750	0.053	0.069
A1	0.100	0.250	0.004	0.010
A2	1.350	1.550	0.053	0.061
b	0.330	0.510	0.013	0.020
c	0.156	0.250	0.006	0.010
D	4.700	5.100	0.185	0.201
e	1.270(BSC)		0.050(BSC)	
E	5.800	6.200	0.228	0.244
E1	3.700	4.100	0.146	0.161
L	0.400	1.270	0.016	0.05
θ	0°	8°	0°	8°