Maximum Ratings (@T_A = +25°C, unless otherwise specified.)

Characteristic			Symbol	Value	Unit
Drain-Source Voltage			V_{DSS}	-100	V
Gate-Source Voltage			V_{GSS}	±20	V
Continuous Drain Current	V_{GS} = 10V	(Note 6)	I_D	-1.6	A
		T_A = +70°C (Note 6)		-1.3	
		(Note 5)		-1.3	
Pulsed Drain Current	V_{GS}= 10V	(Note 7)	I_{DM}	-7.7	A
Continuous Source Current (Body Diode)		(Note 6)	I_S	-2.1	A
Pulsed Source Current (Body Diode)		(Note 7)	I_{SM}	-7.7	A

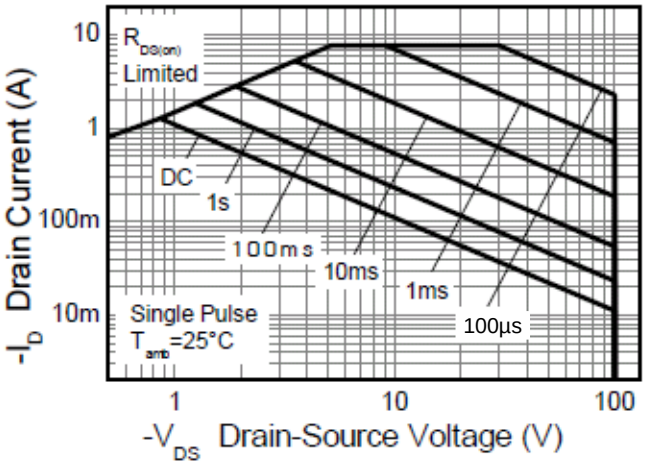
Thermal Characteristics (@T_A = +25°C, unless otherwise specified.)

Characteristic		Symbol	Value	Unit
Power Dissipation	(Note 5)	P_D	1.1	W
Linear Derating Factor			8.8	mW/°C
	(Note 6)		1.7	W
			13.7	mW/°C
Thermal Resistance, Junction to Ambient	(Note 5)	$R_{\theta JA}$	113	°C/W
	(Note 6)		73	
Operating and Storage Temperature Range		T_J, T_{STG}	-55 to +150	°C

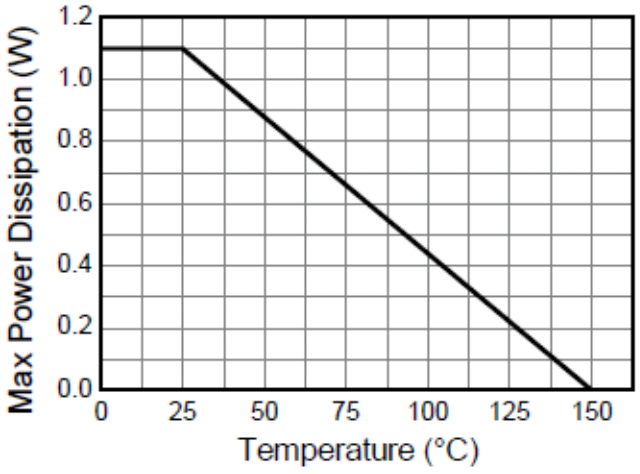
Electrical Characteristics (@T_A = +25°C, unless otherwise specified.)

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
OFF CHARACTERISTICS						
Drain-Source Breakdown Voltage	BV_{DSS}	-100	—	—	V	I_D = -250µA, V_{GS} = 0V
Zero Gate Voltage Drain Current	I_{DSS}	—	—	-0.5	µA	V_{DS} = -100V, V_{GS} = 0V
Gate-Source Leakage	I_{GSS}	—	—	±100	nA	V_{GS} = ±20V, V_{DS} = 0V
ON CHARACTERISTICS						
Gate Threshold Voltage	$V_{GS(TH)}$	-2.0	—	-4.0	V	I_D = -250µA, V_{DS} = V_{GS}
Static Drain-Source On-Resistance (Note 8)	$R_{DS(ON)}$	—	—	0.350	Ω	V_{GS} = -10V, I_D = -1.4A
				0.450		V_{GS} = -6V, I_D = -1.2A
Forward Transconductance (Notes 8 & 9)	g_{fs}	—	2.8	—	S	V_{DS} = -15V, I_D = -1.4A
Diode Forward Voltage (Note 8)	V_{SD}	—	-0.85	-0.95	V	I_S = -1.7A, V_{GS} = 0V
Reverse Recovery Time (Note 9)	t_{RR}	—	33	—	ns	I_S = -1.5A, di/dt = 100A/µs
Reverse Recovery Charge (Note 9)	Q_{RR}	—	48	—	nC	
DYNAMIC CHARACTERISTICS (Note 9)						
Input Capacitance	C_{iss}	—	424	—	pF	V_{DS} = -50V, V_{GS} = 0V f = 1MHz
Output Capacitance	C_{oss}	—	36.6	—	pF	
Reverse Transfer Capacitance	C_{rss}	—	29.8	—	pF	
Total Gate Charge (Note 10)	Q_g	—	7.1	—	nC	V_{GS} = -6V V_{DS} = -50V I_D = -1.4A
Total Gate Charge (Note 10)	Q_g	—	10.7	—	nC	V_{GS} = -10V
Gate-Source Charge (Note 10)	Q_{gs}	—	1.7	—	nC	
Gate-Drain Charge (Note 10)	Q_{gd}	—	3.8	—	nC	
Turn-On Delay Time (Note 10)	$t_{D(ON)}$	—	3	—	ns	V_{DD} = -50V, V_{GS} = -10V I_D = -1A, $R_G \cong$ 6.0Ω
Turn-On Rise Time (Note 10)	t_R	—	3.5	—	ns	
Turn-Off Delay Time (Note 10)	$t_{D(OFF)}$	—	13.4	—	ns	
Turn-Off Fall Time (Note 10)	t_F	—	7.2	—	ns	

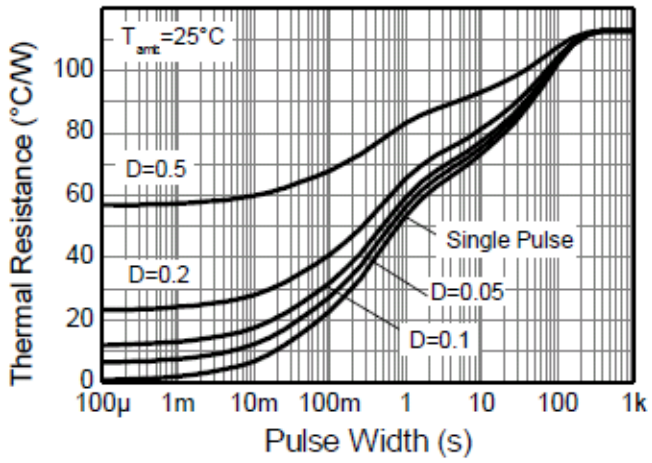
Notes:
5. For a device surface mounted on 25mm x 25mm FR-4 PCB with high coverage of single sided 1oz copper, in still air conditions; the device is measured when operating in a steady-state condition.
6. Same as Note 5, except the device is measured at t ≤ 5 sec.
7. Same as Note 5, except the device is pulsed with D = 0.05 and pulse width 10µs. The pulse current is limited by the maximum junction temperature.
8. Measured under pulsed conditions. Pulse width ≤ 300µs; duty cycle ≤ 2%.
9. For design aid only, not subject to production testing.
10. Switching characteristics are independent of operating junction temperatures.



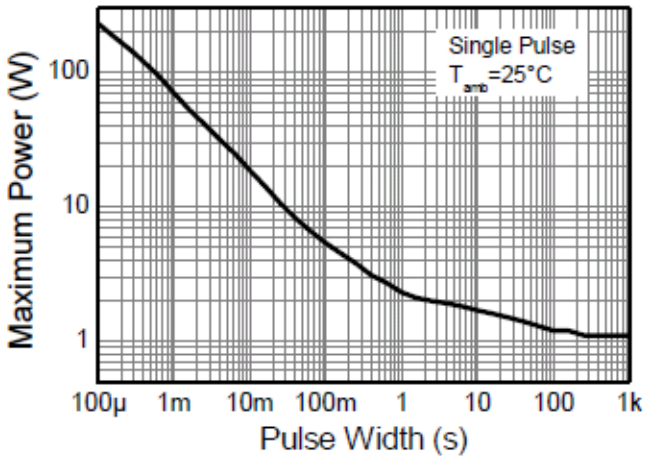
Safe Operating Area



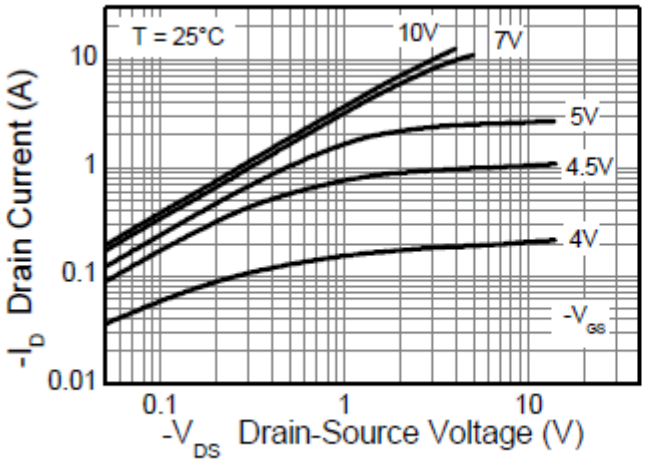
Derating Curve



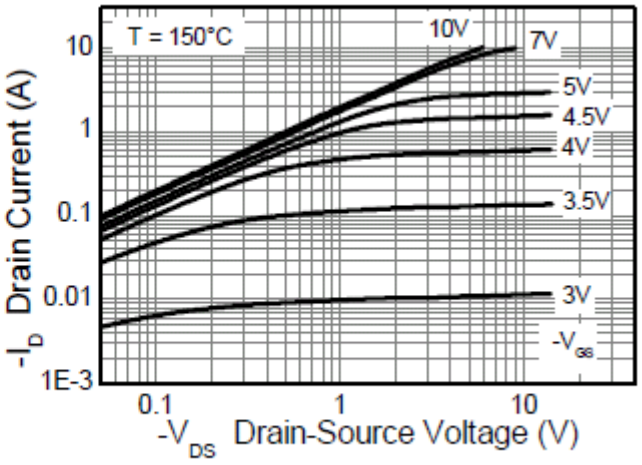
Transient Thermal Impedance



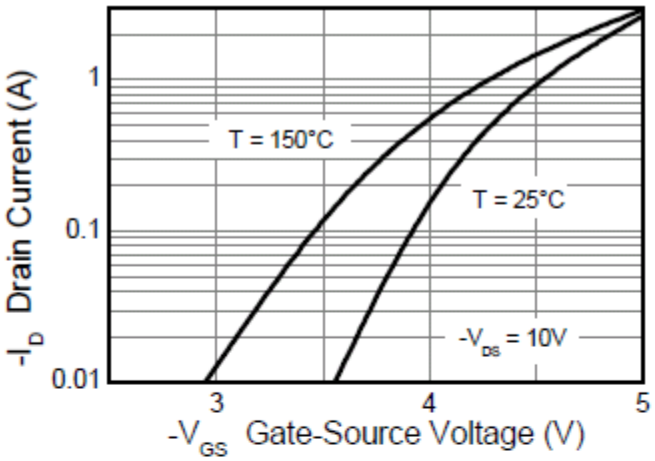
Pulse Power Dissipation



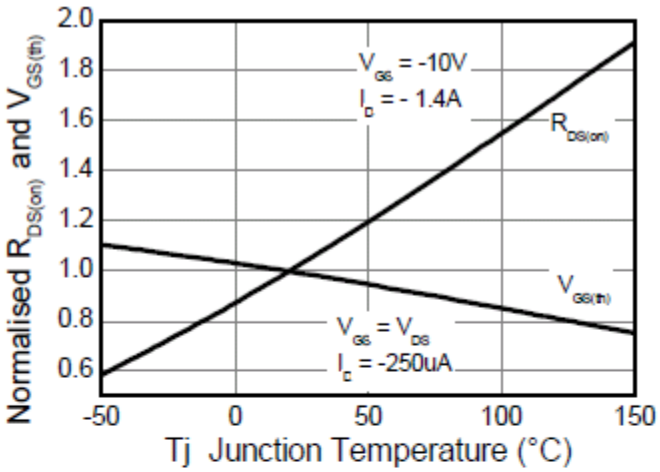
Output Characteristics



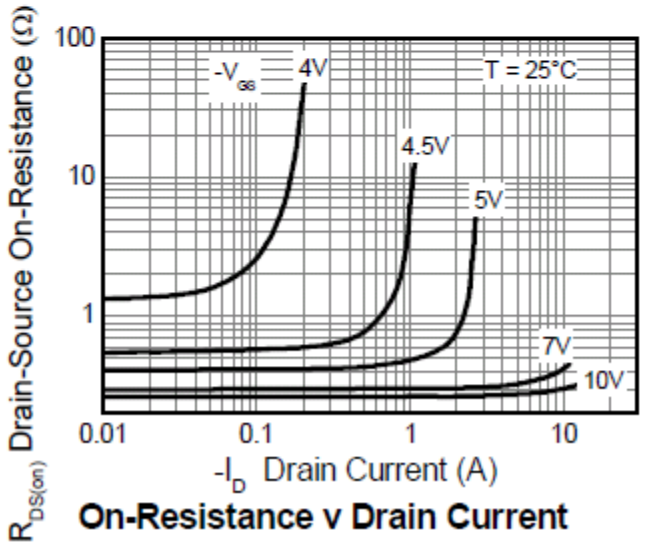
Output Characteristics



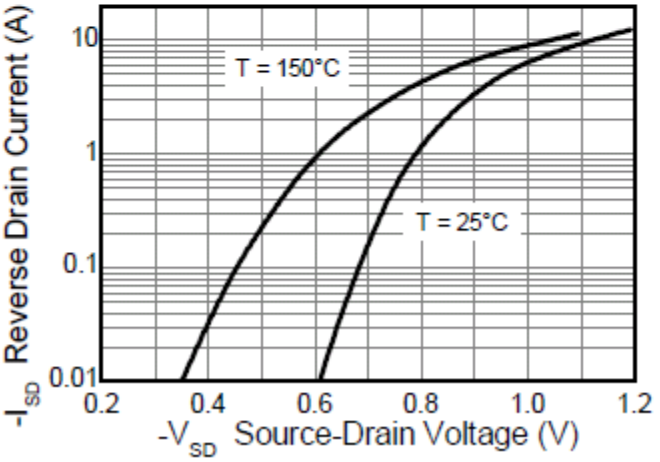
Typical Transfer Characteristics



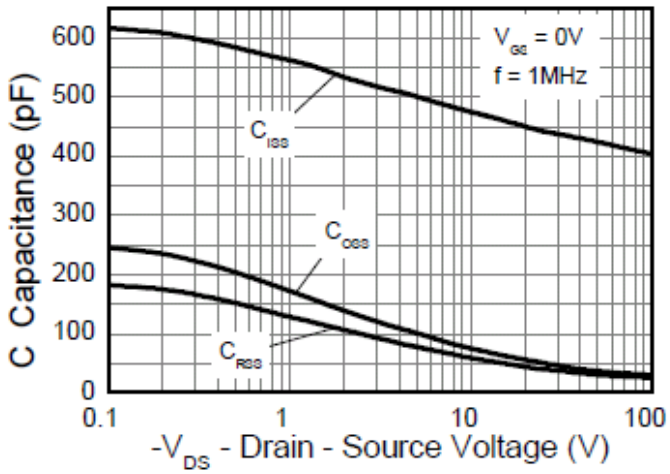
Normalised Curves v Temperature



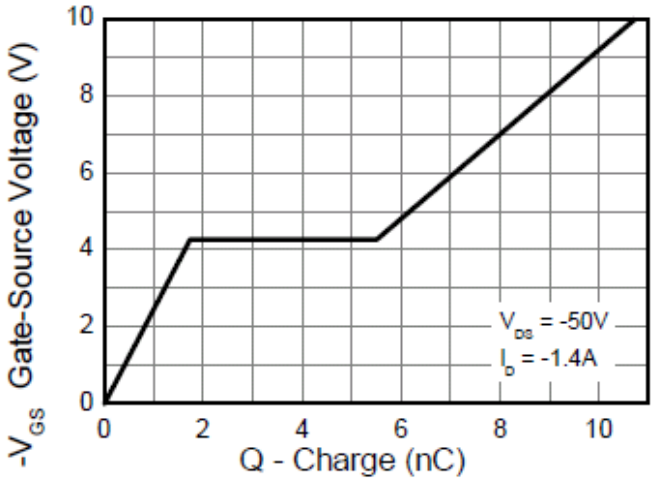
On-Resistance v Drain Current



Source-Drain Diode Forward Voltage

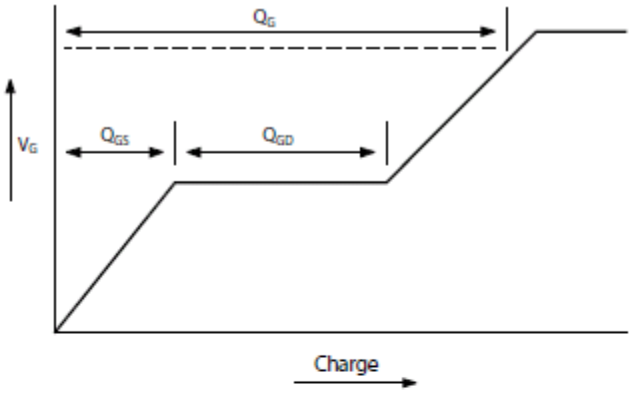


Capacitance v Drain-Source Voltage

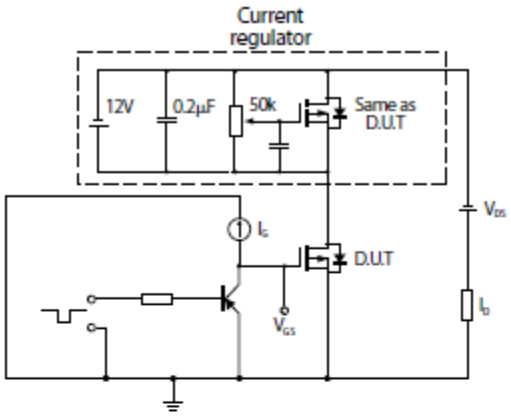


Gate-Source Voltage v Gate Charge

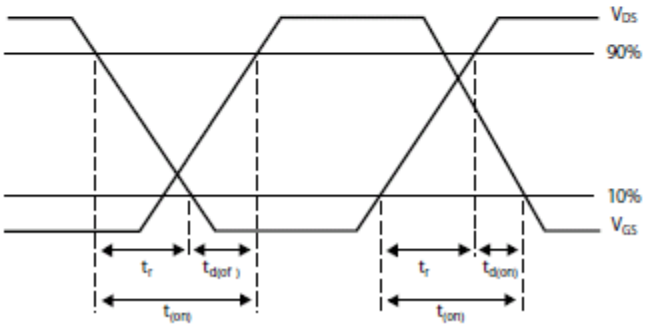
Test Circuits



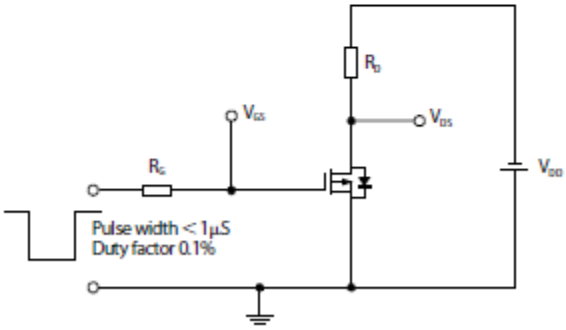
Basic gate charge waveform



Gate charge test circuit



Switching time waveforms

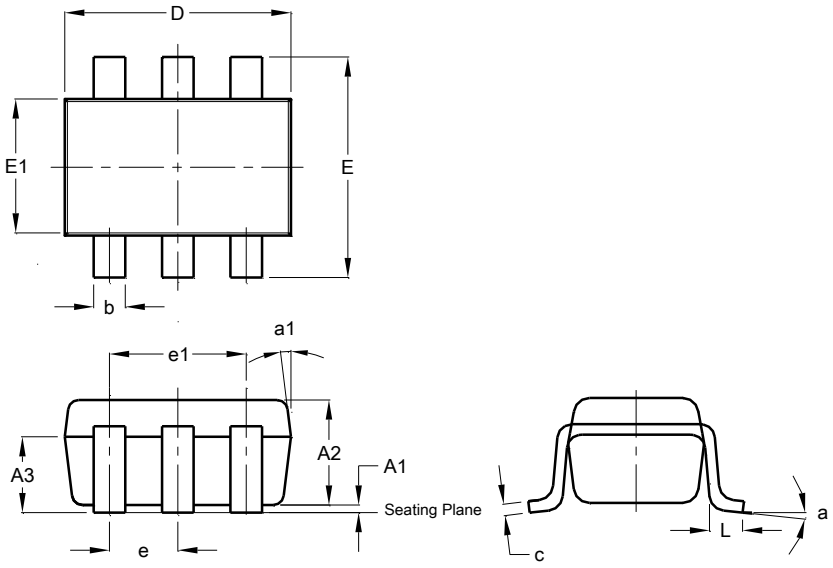


Switching time test circuit

Package Outline Dimensions

Please see http://www.diodes.com/package-outlines.html for the latest version.

SOT26

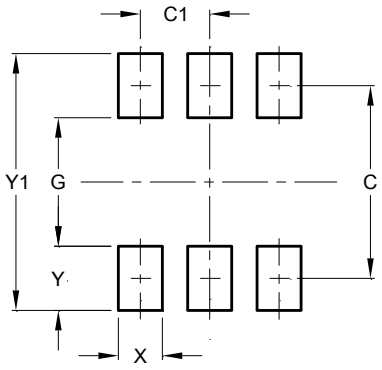


SOT26			
Dim	**Min**	**Max**	**Typ**
A1	0.013	0.10	0.05
A2	1.00	1.30	1.10
A3	0.70	0.80	0.75
b	0.35	0.50	0.38
c	0.10	0.20	0.15
D	2.90	3.10	3.00
e	-	-	0.95
e1	-	-	1.90
E	2.70	3.00	2.80
E1	1.50	1.70	1.60
L	0.35	0.55	0.40
a	-	-	8°
a1	-	-	7°
All Dimensions in mm			

Suggested Pad Layout

Please see http://www.diodes.com/package-outlines.html for the latest version.

SOT26

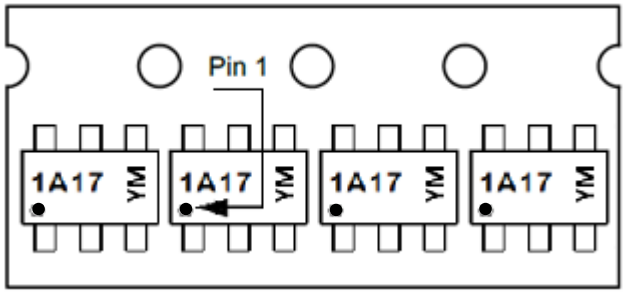


Dimensions	Value (in mm)
C	2.40
C1	0.95
G	1.60
X	0.55
Y	0.80
Y1	3.20

Tape and Reel Information

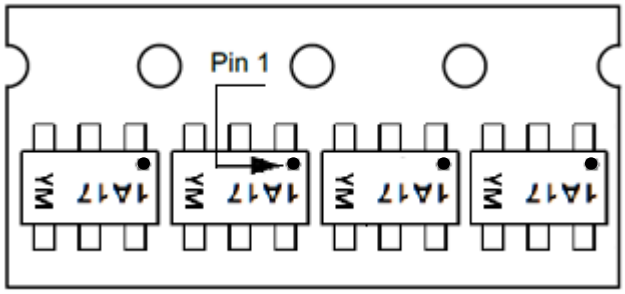
Please see https://www.diodes.com/assets/Packaging-Support-Docs/Ap02007.pdf for the latest version.

ZXMP10A17E6QTA



ZXMP10A17E6QTAR

Rotate 180 degree of Pin 1 orientation in the carrier tape.



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