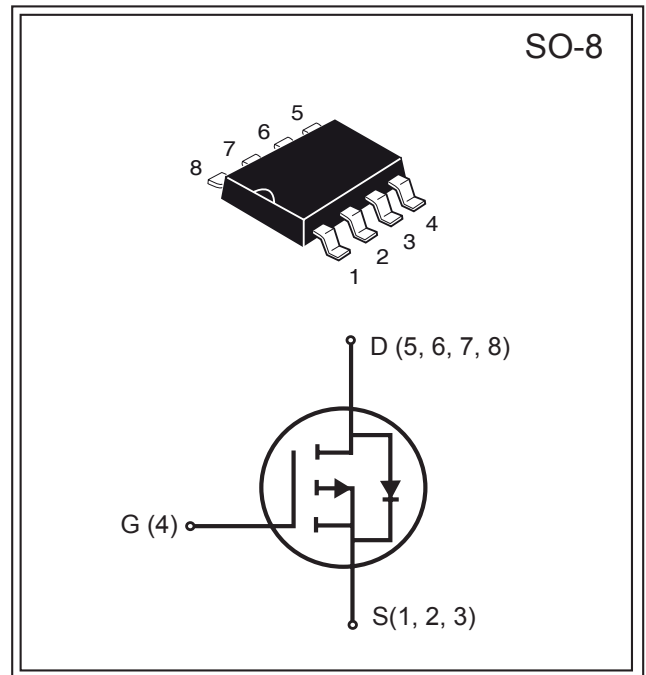




Product Summary		
V_{DS} (V)	I_D (A)	$R_{DS(ON)}$ (m Ω) Max
- 30V	- 8.0A	25 @ $V_{GS} = - 20V$
		35 @ $V_{GS} = - 10V$

FEATURES

- ◆ Super high dense cell design for low $R_{DS(ON)}$.
- ◆ Rugged and reliable.
- ◆ Surface Mount package.



ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ unless otherwise noted)			
Parameter	Symbol	Limit	Unit
Drain-Source Voltage	V_{DS}	- 30	V
Gate-Source Voltage	V_{GS}	± 25	V
Drain Current-Continuous @ $T_J = 125^\circ\text{C}$	I_D	- 8	A
-Pulsed ^b	I_{DM}	- 40	A
Drain-Source Diode Forward Current ^a	I_S	- 2.0	A
Maximum Power Dissipation ^a	P_D	2.5	W
Operating Junction and Storage Temperature Range	T_J, T_{STG}	- 55 to 150	$^\circ\text{C}$
THERMAL CHARACTERISTICS			
Thermal Resistance, Junction-to-Ambient ^a	$R_{\theta JA}$	50	$^\circ\text{C/W}$

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P-Channel Electrical Characteristics (TA = 25°C unless otherwise noted)						
Parameter	Symbol	Condition	Min	Typ ^c	Max	Unit
Drain-Source Breakdown Voltage	BV _{DSS}	V _{GS} =0V, I _D = - 250 μA	-30			V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = - 24V, V _{GS} =0V			- 1	μA
Gate-Body Leakage	I _{GSS}	V _{GS} = ±25V, V _{DS} =0V			±100	nA
Gate Threshold Voltage	V _{GS(th)}	V _{DS} =V _{GS} , I _D = - 250 μA	- 1.7	- 3	- 3.5	V
Drain-Source On-State Resistance	R _{DS(ON)}	V _{GS} = - 20V, I _D = - 8.0A		20	25	mΩ
		V _{GS} = - 10V, I _D = - 8.0A		26	35	
		V _{GS} = - 6V, I _D = - 5.0A		50	60	
On-State Drain Current	I _{D(ON)}	V _{DS} = - 5V, V _{GS} = - 10V	- 35			A
Forward Transconductance	g _{FS}	V _{DS} = - 5V, I _D = - 8.0A		15		S
Input Capacitance	C _{ISS}	V _{DS} = - 15V		890	1100	pF
Output Capacitance	C _{OSS}	V _{GS} =0V		200		
Reverse Transfer Capacitance	C _{RSS}	f=1.0MHz		110	150	
Turn-On Delay Time	t _{D(ON)}	V _{DD} = - 15V,		12		ns
Rise Time	t _r	I _D = - 1A,		10		
Turn-Off Delay Time	t _{D(OFF)}	V _{GEN} = - 10V,		120		
Fall Time	t _f	R _{GEN} =6Ω,		70		
Total Gate Charge	Q _g	V _{DS} = - 15V, I _D = - 8A, V _{GS} = - 10V		16	21	nC
Gate-Source Charge	Q _{gs}	V _{DS} = - 15V,		3.0		
Gate-Drain Charge	Q _{gd}	I _D = - 6A, V _{GS} = - 10V		5.0		
Diode Forward Voltage	V _{SD}	V _{GS} = 0V, I _D = - 1A		- 0.75	- 1.2	V

Notes :

- a. Surface Mounted on FR4 Board, t ≤ 10 sec.
- b. Pulse Test : Pulse Width ≤ 300 μs, Duty Cycle ≤ 2%.
- c. Guaranteed by design, not subject to production testing.

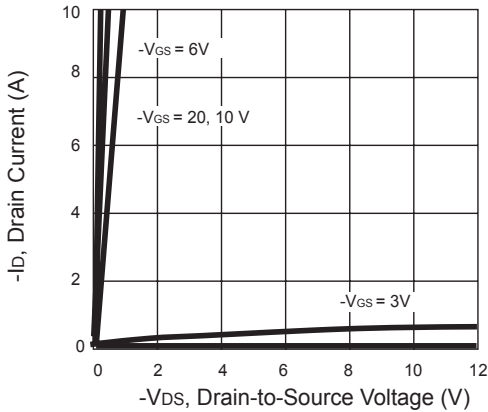


Figure 1. Output Characteristics

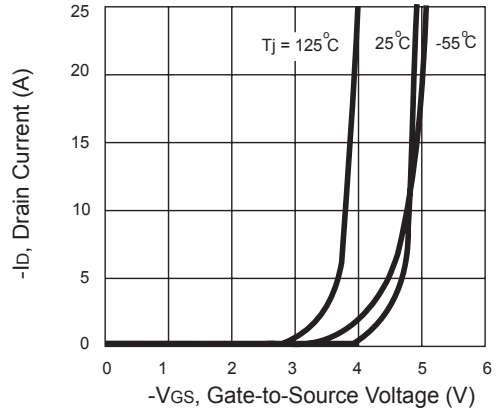


Figure 2. Transfer Characteristics

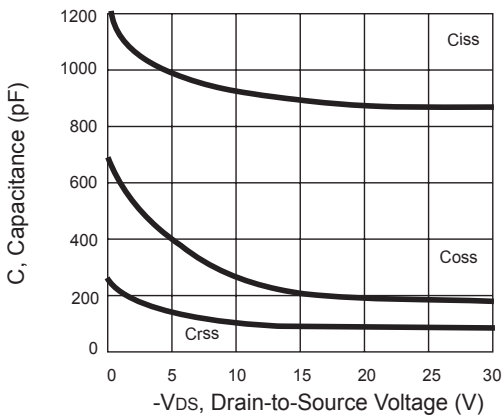


Figure 3. Capacitance

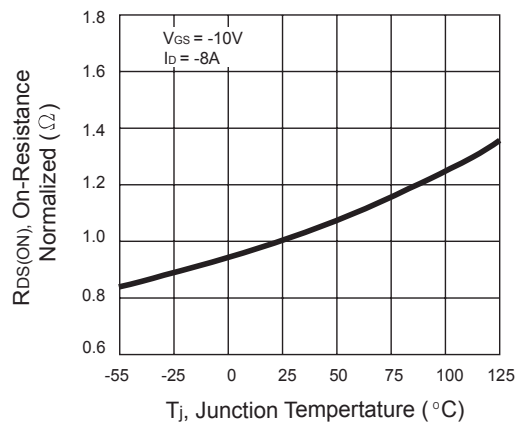


Figure 4. On-Resistance Variation with Temperature

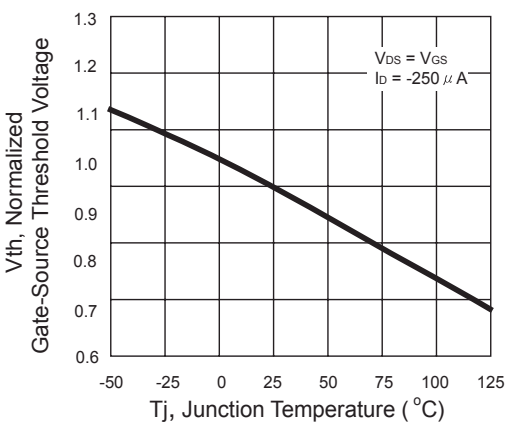


Figure 5. Gate Threshold Variation with Temperature

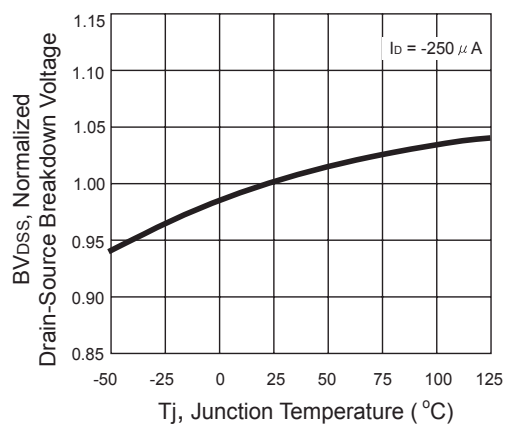


Figure 6. Breakdown Voltage Variation with Temperature

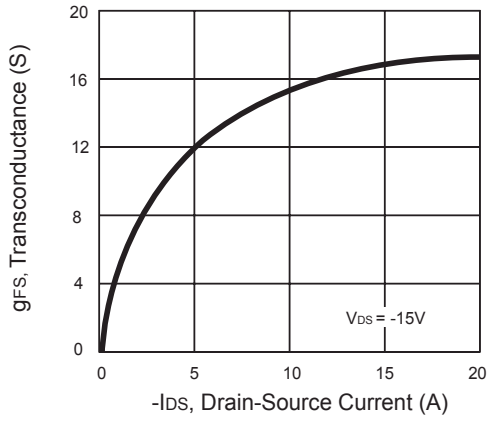


Figure 7. Transconductance Variation with Drain Current

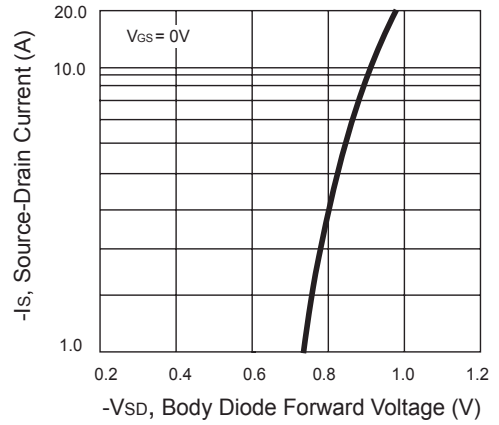


Figure 8. Body Diode Forward Voltage Variation with Source Current

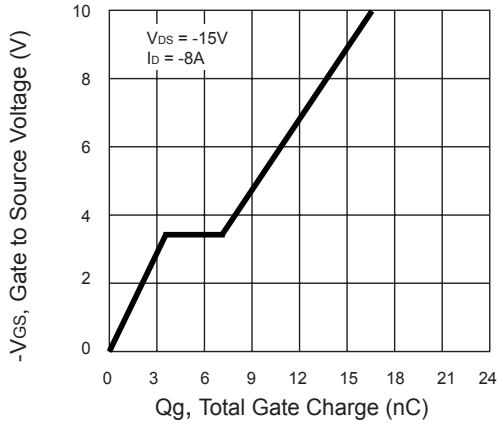


Figure 9. Gate Charge

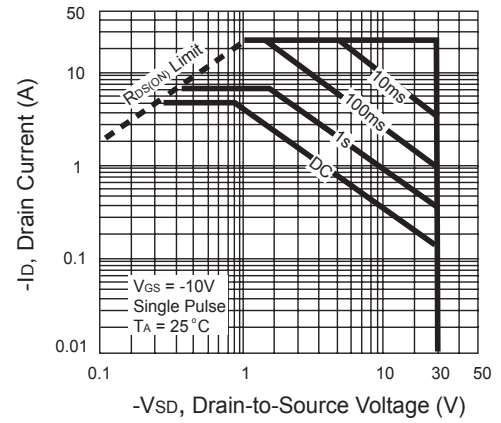


Figure 10. Maximum Safe Operating Area

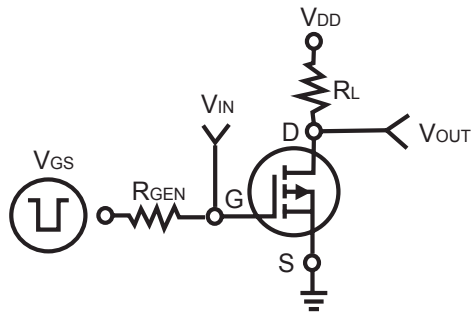


Figure 11. Switching Test Circuit

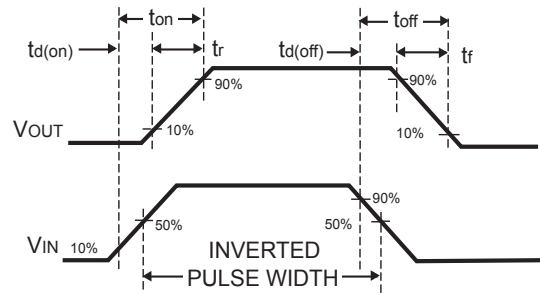


Figure 12. Switching Waveforms

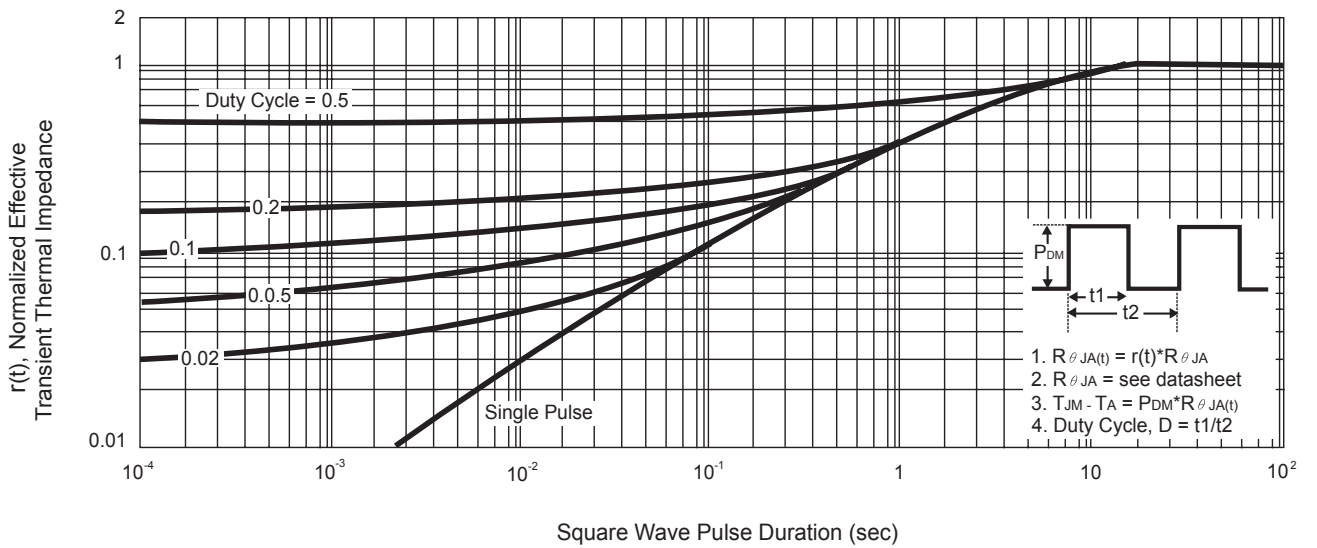
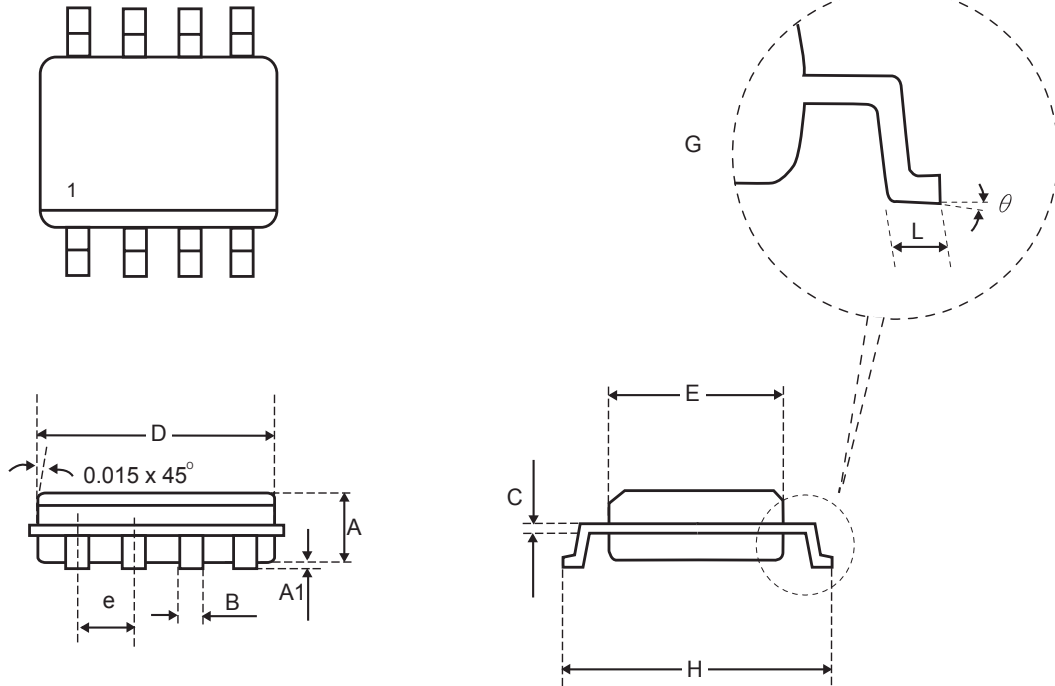


Figure 13. Normalized Thermal Transient Impedance Curve



Package Outline Dimensions

SO-8



SYMBOLS	MILLIMETERS		INCHES	
	Min.	Max.	Min.	Max.
A	1.35	1.75	0.053	0.069
A1	0.10	0.25	0.004	0.010
B	0.41 Typ.		0.016 Typ.	
C	0.20 Typ.		0.008 Typ.	
D	4.80	4.98	0.189	0.196
E	3.81	3.99	0.150	0.157
e	1.25 Typ.		0.05 Typ.	
H	5.79	6.20	0.228	0.244
L	0.41	1.27	0.016	0.050
θ	0°	8°	0°	8°

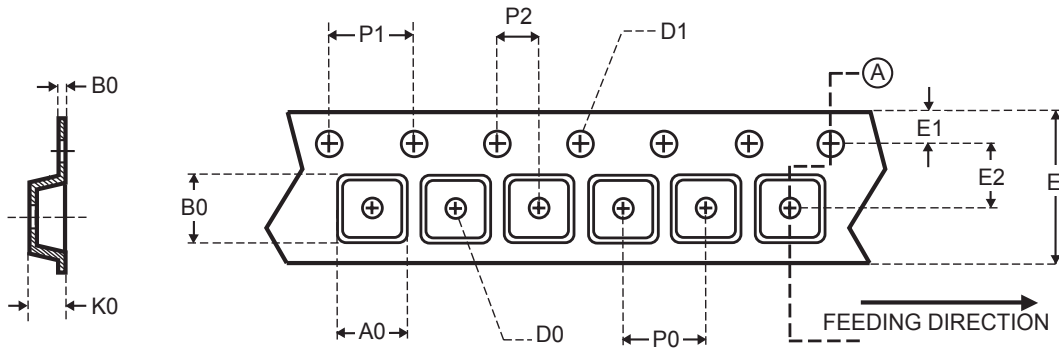
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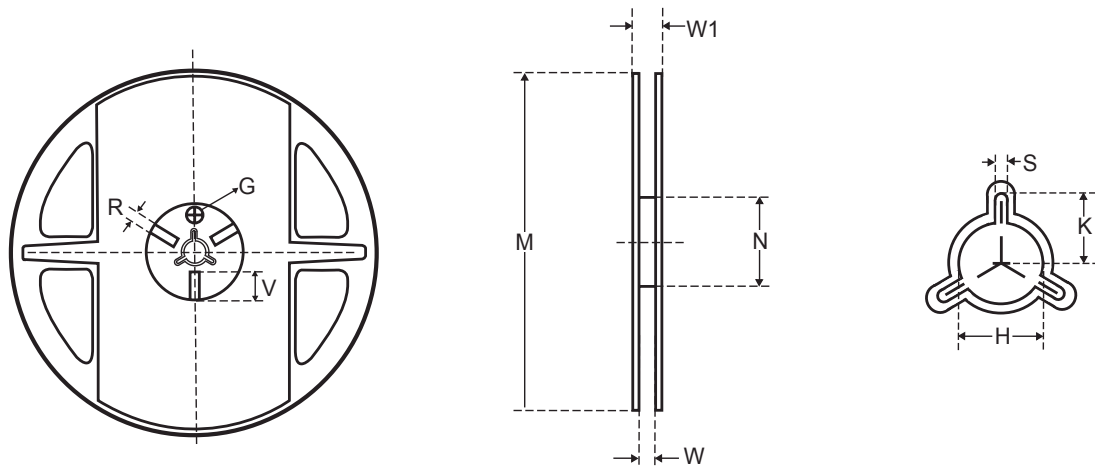
Carrier Tape & Reel Dimensions

SO-8



Package	A0	B0	K0	D0	D1	E	E1	E2	P0	P1	P2	T
SOP 8N 150 mil	6.40	5.20	2.10	$\phi 1.50$ (Min.)	$\phi 1.50$ +0.10 -0.10	12.00 ± 0.30	1.75	5.50 ± 0.05	8.00	4.00	2.00 ± 0.05	0.30 ± 0.05

UNIT : mm



Tape size	Reel Size	M	N	W	W1	H	K	S	G	R	V
12mm	$\phi 330$	330 ± 1	62 ± 1.5	12.4 ± 0.2	16.8 -0.4	$\phi 12.75$ ± 0.15	-	2.0 ± 0.15	-	-	-

UNIT : mm