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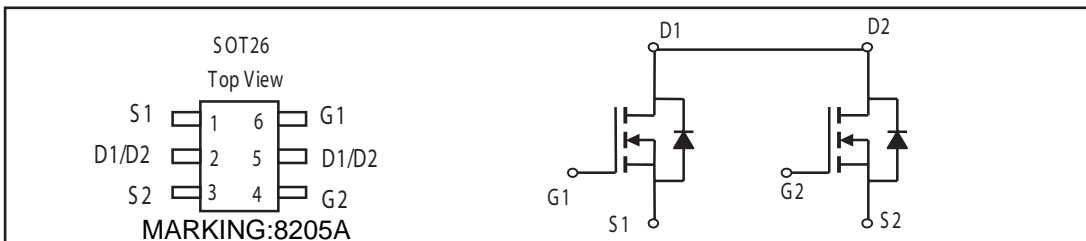
Shen zhen TuoFeng industrial co., LTD

Dual N-Channel Enhancement Mode Field Effect Transistor

PRODUCT SUMMARY		
V _{DS}	I _D	R _{DS(ON)} (m ohm)Max
20V	5A	25@V _{GS} = 4.5 V 40@V _{GS} = 2.5 V

FEATURES

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



ABSOLUTE MAXIMUM RATINGS (T_A=25 °C unless otherwise noted)

Parameter	Symbol	Limit	Unit
Drain-Source Voltage	V _{DS}	20	V
Gate-Source Voltage	V _{GS}	±8	V
Drain Current-Continuous @ T _J =25 °C -Pulsed ^b	I _D	5	A
	I _{DM}	25	A
Drain-Source Diode Forward Current ^a	I _S	2	A
Maximum Power Dissipation ^a	P _D	1.25	W
Operating Junction and Storage Temperature Range	T _J , T _{STG}	-55 to 150	°C

THERMAL CHARACTERISTICS

Thermal Resistance, Junction-to-Ambient ^a	R θJA	100	°C/W
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ELECTRICAL CHARACTERISTICS (TA=25 °C unless otherwise noted)

Parameter	Symbol	Condition	Min	Typ ^c	Max	Unit
OFF CHARACTERISTICS						
Drain-Source Breakdown Voltage	BV _{DSS}	V _{GS} =0V, I _D =250uA	20			V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =16V, V _{GS} =0V			1	uA
Gate-Body Leakage	I _{GSS}	V _{GS} = ± 8V V _{DS} =0V			±100	nA
ON CHARACTERISTICS^b						
Gate Threshold Voltage	V _{GS(th)}	V _{DS} =V _{GS} , I _D = 250uA	0.5	0.8	1.0	V
Drain-Source On-State Resistance	R _{DS(ON)}	V _{GS} =4.0V, I _D = 5A		22	25	m ohm
		V _{GS} =2.5V, I _D = 4A		38	40	m ohm
Forward Transconductance	g _{FS}	V _{DS} = 5V, I _D =5A		13		S
DYNAMIC CHARACTERISTICS^c						
Input Capacitance	C _{ISS}	V _{DS} =8V, V _{GS} = 0V f=1.0MHz		800		pF
Output Capacitance	C _{OSS}			155		pF
Reverse Transfer Capacitance	C _{RSS}			125		pF
SWITCHING CHARACTERISTICS^c						
Turn-On Delay Time	t _{D(ON)}	V _{DD} = 10V, I _D = 1A, V _{GEN} = 4.0V, R _L = 10 ohm R _{GEN} = 10 ohm		18.3		ns
Rise Time	t _r			4.8		ns
Turn-Off Delay Time	t _{D(OFF)}			43.5		ns
Fall Time	t _f			20		ns
Total Gate Charge	Q _g	V _{DS} =10V, I _D = 4A, V _{GS} =4.0V		11		nC
Gate-Source Charge	Q _{gs}			2.2		nC
Gate-Drain Charge	Q _{gd}			2.5		nC



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ELECTRICAL CHARACTERISTICS ($T_A=25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Condition	Min	Typ ^c	Max	Unit
DRAIN-SOURCE DIODE CHARACTERISTICS ^b						
Diode Forward Voltage	V_{SD}	$V_{GS} = 0V, I_S = 1.7\text{ A}$	0.42		1.28	V

Notes

- a.Surface Mounted on FR4 Board, $t \leq 10\text{sec}$.
- b.Pulse Test:Pulse Width $\leq 300\mu\text{s}$, Duty Cycle $\leq 2\%$.
- c.Guaranteed by design, not subject to production testing.

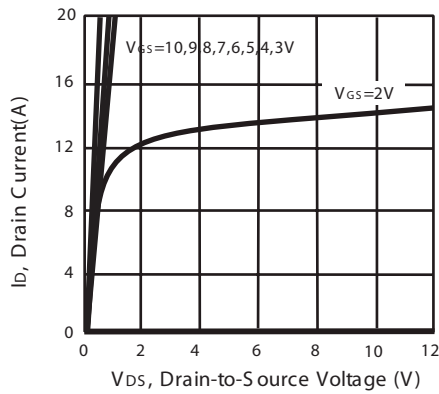


Figure 1. Output Characteristics

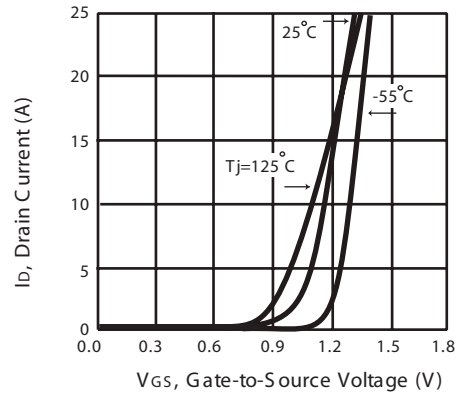


Figure 2. Transfer Characteristics

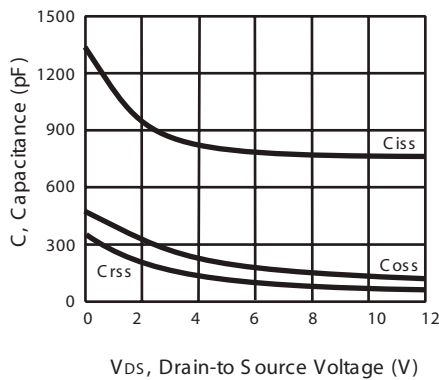


Figure 3. Capacitance

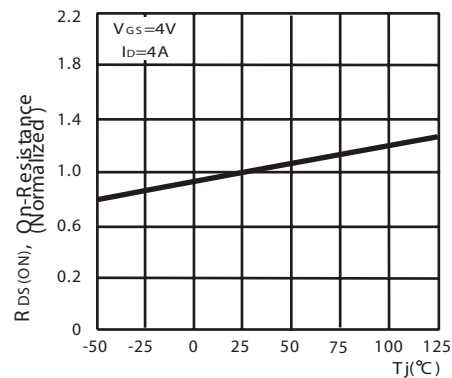
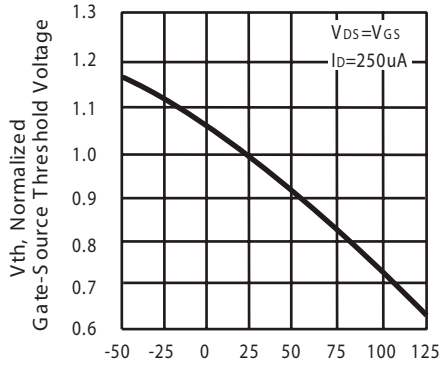


Figure 4. On-Resistance Variation with Temperature

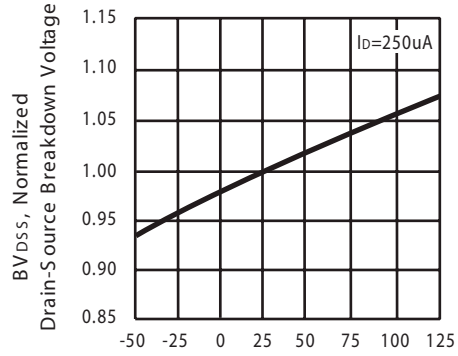


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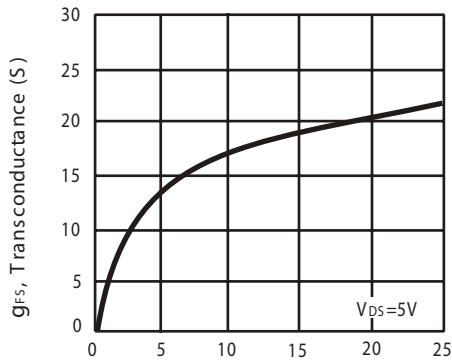
T_j , Junction Temperature (°C)

with Temperature



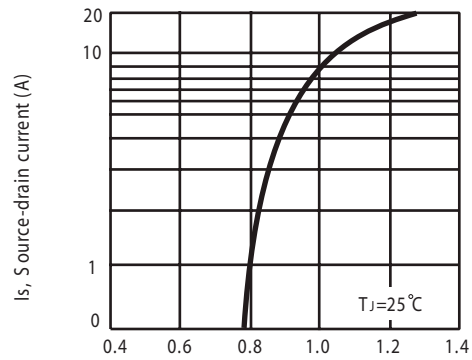
T_j , Junction Temperature (°C)

Figure 6. Breakdown Voltage Variation with Temperature



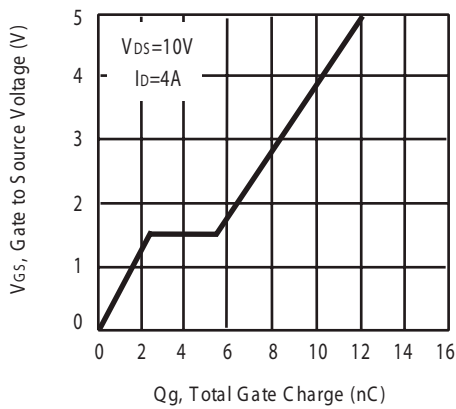
I_{DS} , Drain-Source Current (A)

Figure 7. Transconductance Variation with Drain Current



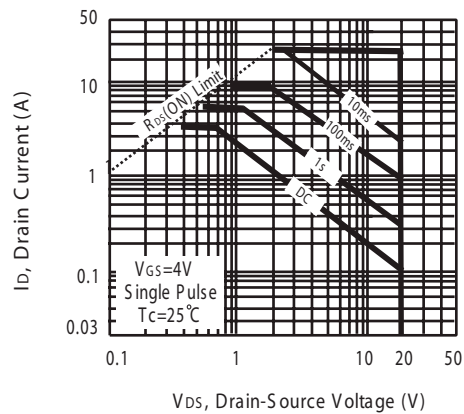
V_{SD} , Body Diode Forward Voltage (V)

Figure 8. Body Diode Forward Voltage Variation with Source Current



Q_g , Total Gate Charge (nC)

Figure 9. Gate Charge



V_{DS} , Drain-Source Voltage (V)

Figure 10. Maximum Safe Operating Area



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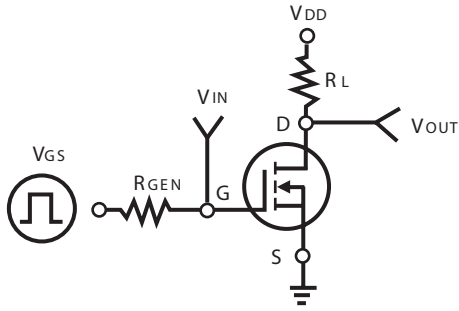


Figure 11. Switching Test Circuit

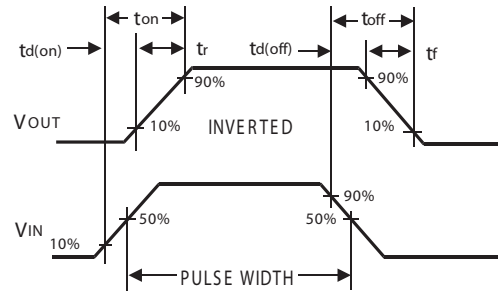
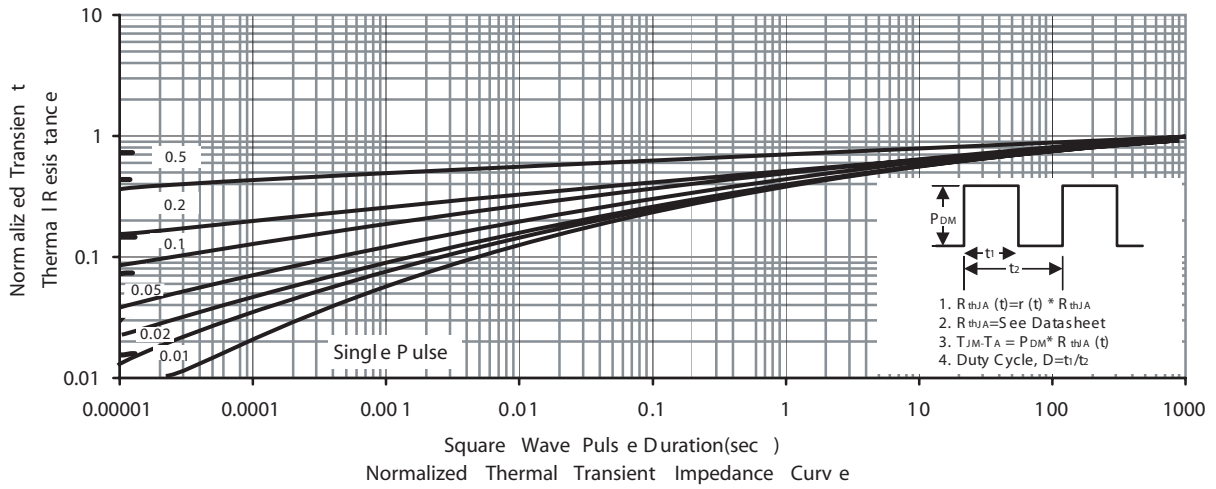


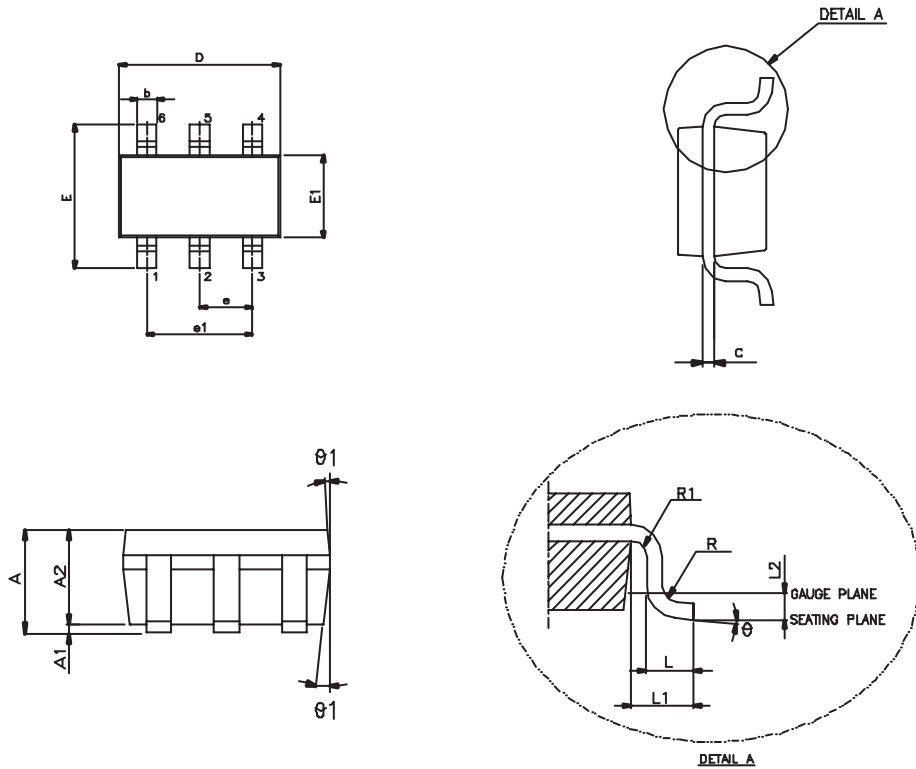
Figure 12. Switching Waveforms



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PACKAGE OUTLINE DIMENSIONS

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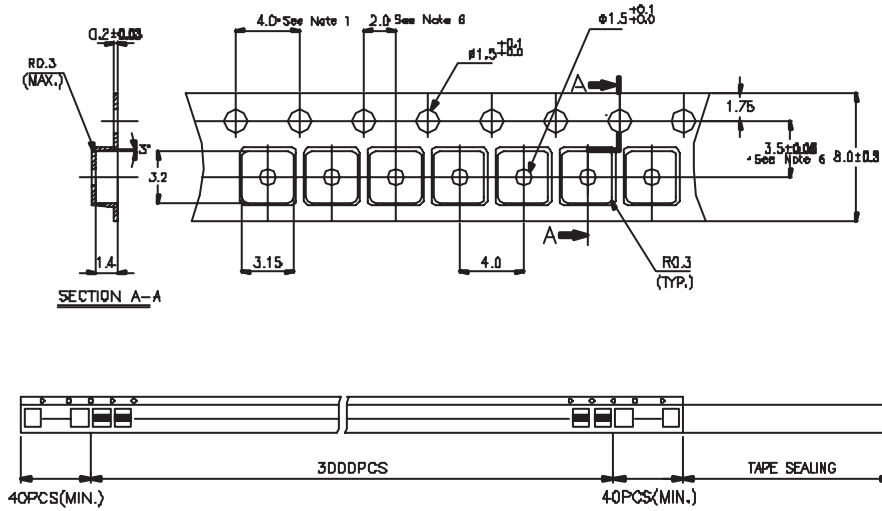
SYMBOL	MIN.	NOM.	MAX.
A	—	—	1.45
A1	—	—	0.15
A2	0.90	1.15	1.30
b	0.30	—	0.50
c	0.08	—	0.22
D	2.90 BSC.		
E	2.80 BSC.		
E1	1.60 BSC.		
e	0.95 BSC.		
e1	1.90 BSC.		
L	0.30	0.45	0.60
L1	0.60 REF.		
L2	0.25 BSC.		
R	0.10	—	—
R1	0.10	—	0.25
Ø	0°	4°	8°
Ø1	5°	10°	15°



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SOT26 Tape and Reel Data

SOT26 Carrier Tape



SOT26 Reel

