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Elektronische Bauelemente

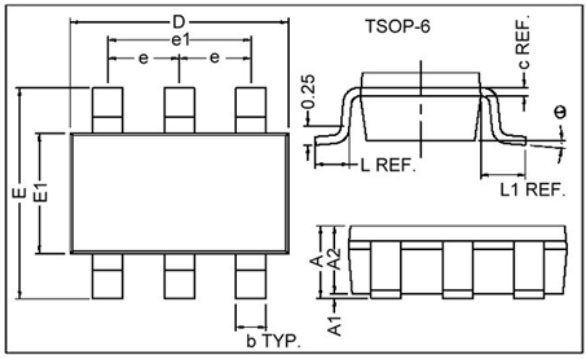
STT2622

520mA, 50V,$R_{DS(ON)}$ 1.8Ω

N-Channel Enhancement Mode Power Mos.FET

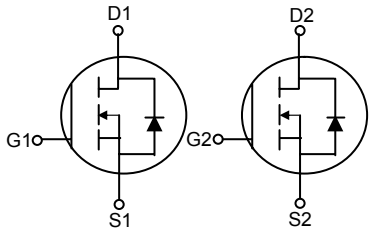
Description

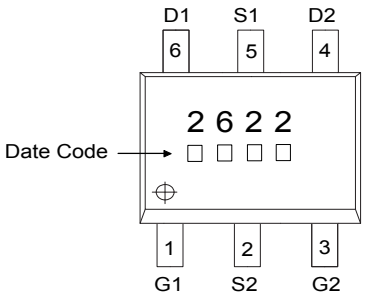
The STT2622 utiltzed advance processing techniques to achieve the lowest possible on-resistance, extermely efficient and cost-effectiveness device.
The SOT-26 is universally used for all commercial-industrial applications.



Features

* RoHS Compliant
* Low Gate Charge
* Surface Mount Package





REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	1.10 MAX.		L	0.45 REF.	
A1	0	0.10	L1	0.60 REF.	
A2	0.70	1.00	□	0°	10°
c	0.12 REF.		b	0.30	0.50
D	2.70	3.10	e	0.95 REF.	
E	2.60	3.00	e1	1.90 REF.	
E1	1.40	1.80			

Absolute Maximum Ratings

Parameter	Symbol	Ratings	Unit
Drain-Source Voltage	V_{DS}	50	V
Gate-Source Voltage	V_{GS}	±20	V
Continuous Drain Current[3],V_{GS}@10V	I_D@T_A=25°C	520	mA
Continuous Drain Current[3],V_{GS}@10V	I_D@T_A=70°C	410	mA
Pulsed Drain Current[1]	I_{DM}	1.5	A
Total Power Dissipation	P_D@T_A=25°C	0.8	W
Linear Derating Factor		0.006	W/°C
Operating Junction and Storage Temperature Range	Tj, Tstg	-55~+150	°C

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Thermal Data

Parameter	Symbol	Ratings	Unit
Thermal Resistance Junction-ambient[3] (Max)	Rthj-a	150	°C/W

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Electrical Characteristics(Tj=25°C Unless otherwise specified)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Condition
Drain-Source Breakdown Voltage	BV_{DSS}	50	–	–	V	V_{GS}=0V, I_D= 250uA
Breakdown Voltage Temp. Coefficient	$\triangle BV_{DS}/\triangle Tj$	–	0.06	–	V/ °C	Reference to 25°C, I_D= 1mA
Gate Threshold Voltage	$V_{GS(th)}$	1.0	–	3.0	V	V_{DS}=V_{GS}, I_D=250uA
Gate-Source Leakage Current	I_{GSS}	–	–	± 30	uA	V_{GS}=±20V
Drain-Source Leakage Current (Tj=25°C)	I_{DSS}	–	–	10	uA	V_{DS}=50V, V_{GS}=0
Drain-Source Leakage Current (Tj=70°C)		–	–	100	uA	V_{DS}= 40V, V_{GS}=0
Static Drain-Source On-Resistance[2]	$R_{DS(ON)}$	–	–	1.8	Ω	V_{GS}=10V, I_D=500mA
		–	–	3.2		V_{GS}=4.5V, I_D=200mA
Total Gate Charge[2]	Qg	–	1	1.6	nC	I_D=500mA V_{DS}=40V V_{GS}=4.5V
Gate-Source Charge	Qgs	–	0.5	–		
Gate-Drain ("Miller") Charge	Qgd	–	0.5	–		
Turn-on Delay Time[2]	$T_{d(ON)}$	–	12	–	nS	V_{DD}= 25V I_D= 500mA V_{GS}=10V R_G=3.3Ω R_D=50Ω
Rise Time	Tr	–	10	–		
Turn-off Delay Time	$T_{d(Off)}$	–	56	–		
Fall Time	T_f	–	29	–		
Input Capacitance	Ciss	–	32	50	pF	V_{GS}=0V V_{DS}=25V f=1.0MHz
Output Capacitance	Coss	–	8	–		
Reverse Transfer Capacitance	Crss	–	6	–		
Forward Transconductance	Gfs	–	600	–	mS	V_{DS}=10V, I_D=500mA

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Source-Drain Diode

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Condition
Forward On Voltage[2]	V_{SD}	–	–	1.3	V	I_S=600mA, V_{GS}=0V.

Notes: 1.Pulse width limited by Max. junction temperature.

2.Pulse width≦300us, dutycycle≦2%.

3.Surface mounted on 1 in^{2}copper pad of FR4 board; 250°C/W when mounted on min. copper pad.

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Characteristics Curve

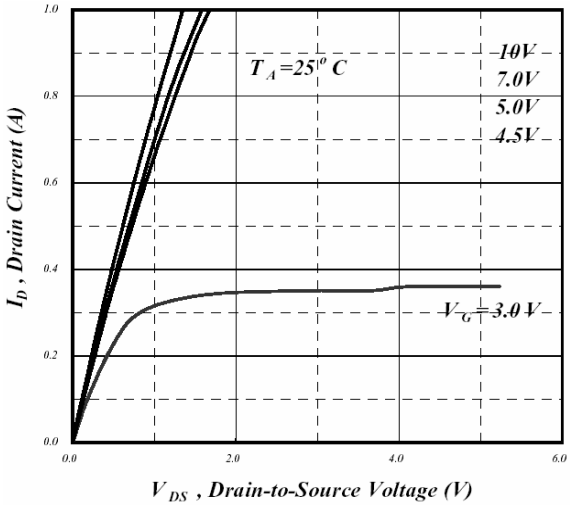

Fig 1. Typical Output Characteristics

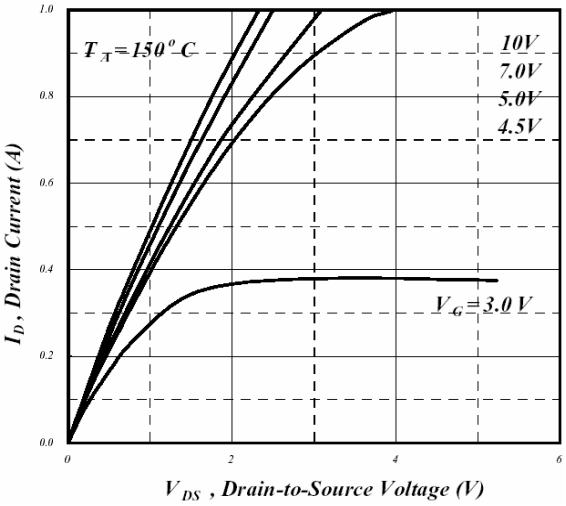

Fig 2. Typical Output Characteristics

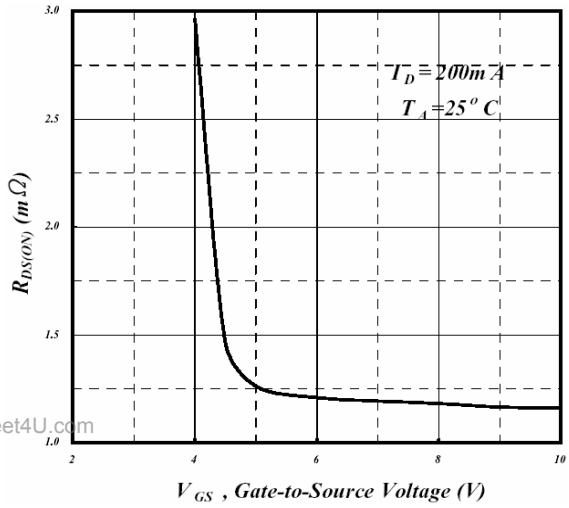

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Fig 3. On-Resistance v.s. Gate Voltage

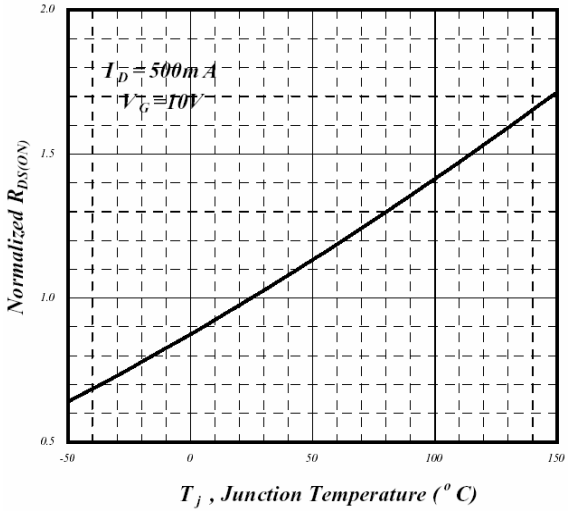

Fig 4. Normalized On-Resistance v.s. Junction Temperature

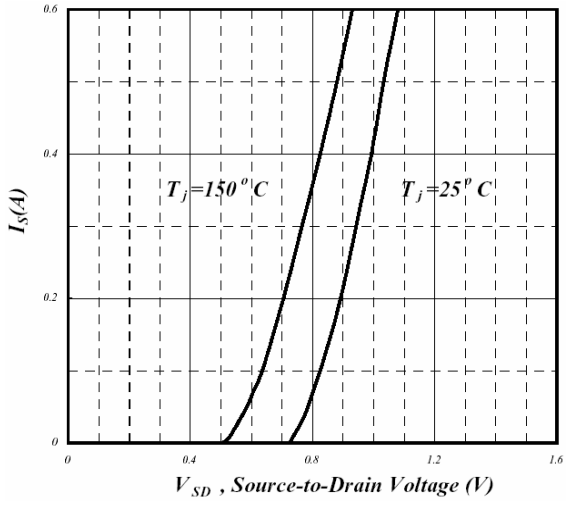

Fig 5. Forward Characteristics of Reverse Diode

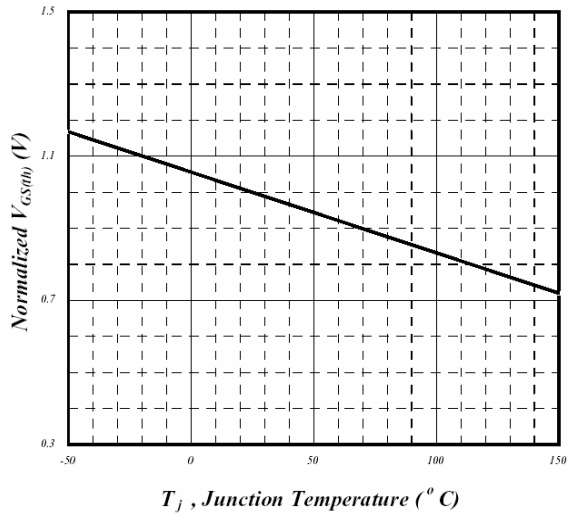

Fig 6. Gate Threshold Voltage v.s. Junction Temperature

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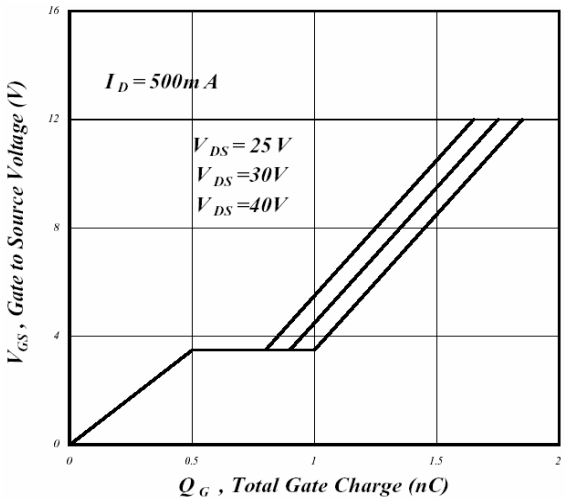

Fig 7. Gate Charge Characteristics

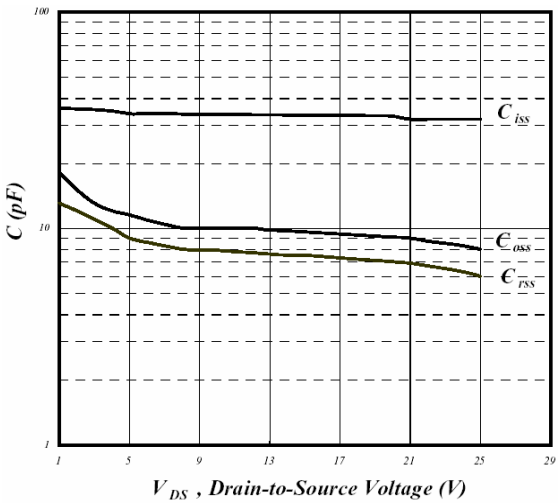

Fig 8. Typical Capacitance Characteristics

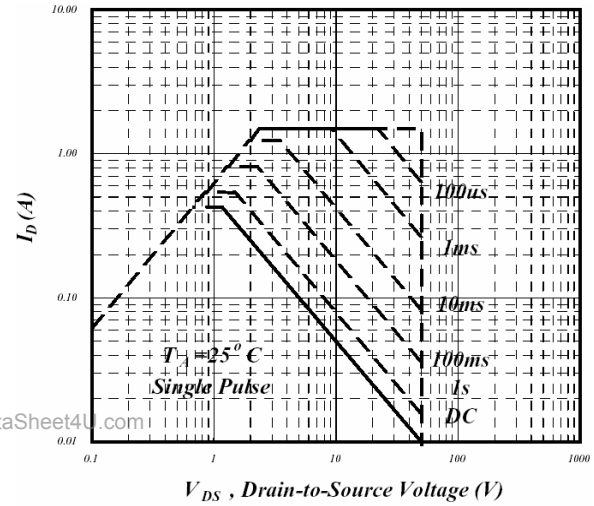

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Fig 9. Maximum Safe Operating Area

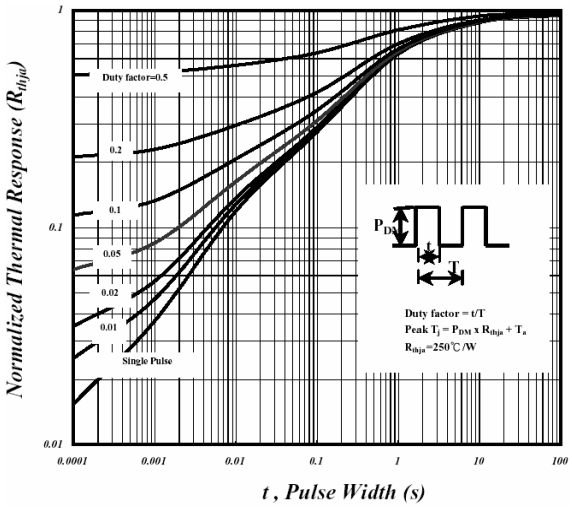

Fig 10. Effective Transient Thermal Impedance

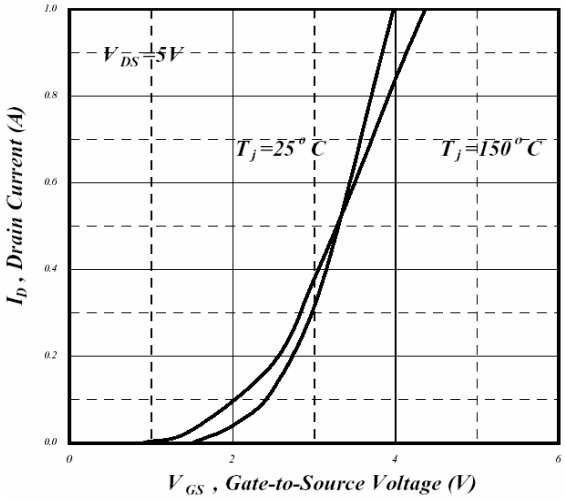

Fig 11. Transfer Characteristics

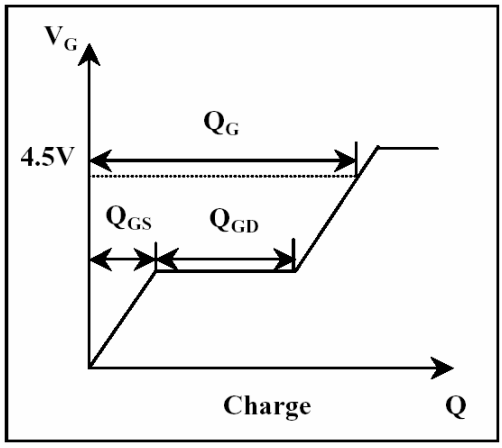

Fig 12. Gate Charge Waveform