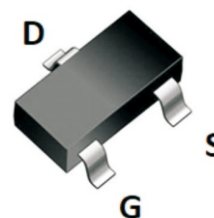




NM3400A
5.8A 30V N-CHANNEL MOSFET

SOT-23

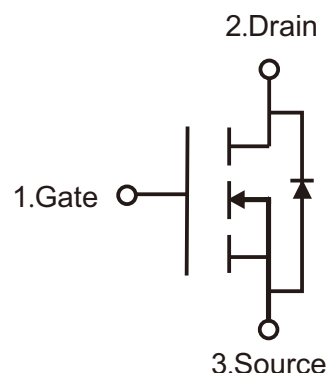


Features

- $R_{DS(ON)} \leq 28m\Omega @ V_{GS}=10V$
- $R_{DS(ON)} \leq 40m\Omega @ V_{GS}=4.5V$
- Advanced Trench Process Technology
- Specially Designed for Switch Load,PWM Application,etc.

Mechanical Data

- Case:SOT-23 Package
- Terminals:Solderable per MIL-STD-750,Method 2026



Absolute Maximum Ratings (TA=25°C, unless otherwise specified)

Parameter	Symbols	Ratings	Units
Drain-Source Voltage	V_{DSS}	30	V
Gate-Source Voltage	V_{GSS}	± 20	V
Continuous Drain Current	I_D	5.8	A
Pulsed Drain Current	I_{DM}	22	A
Power Dissipation	P_D	1.25	W
Thermal Resistance - Junction to Case (Note3)	$R_{\theta JA}$	100	$^{\circ}CW$
Operation Junction Temperature and Storage Temperature	T_j, T_{stg}	-55 ~ +150	$^{\circ}C$



Electrical Characteristics (TA=25°C, unless otherwise specified)

Parameter	Symbols	Text conditions	Min	Typ	Max	Units
Off Characteristics						
Drain-Source Breakdown Voltage	B _{VDSS}	V _{GS} =0V, I _D =250uA	30	33		V
Drain-Source Leakage Current	I _{DSS}	V _{DS} =30V, V _{GS} =0V			1	uA
Gate- Source Leakage Current	Forward	I _{GSS}			100	nA
	Reverse					
On Characteristics						
Gate Threshold Voltage	V _{GS(th)}	V _{DS} =V _{GS} , I _D =250uA	1.0	1.5	2.5	V
Static Drain-Source On-State Resistance	R _{DS(ON)}	V _{GS} =10V, I _D =5A		19	28	mΩ
		V _{GS} =4.5V, I _D =3A		26	40	mΩ
Drain-Source Diode Forward Voltage	V _{SD}	I _S =1.0A, V _{GS} =0V		0.76	1.2	V
Dynamic Characteristics (Note5)						
Input Capacitance	C _{iss}	V _{DS} =15V, V _{GS} =0V, f=1.0MHz		602		pF
Output Capacitance	C _{oss}			90		pF
Reverse Transfer Capacitance	C _{rss}			67		pF
Switching Characteristics						
Total Gate Charge	Q _g	V _{DS} =15V, V _{GS} =10V, I _D =5.8A (Note1,2)		12.8		nC
Gate-Source Charge	Q _{gs}			1.6		nC
Gate-Drain Charge	Q _{gd}			2.5		nC
Turn-On Delay Time	t _{d(on)}	V _{DS} =15V, V _{GS} =10V, I _D =5.8A, R _{GEN} =3Ω (Note1,2)		4.7		ns
Turn-On Rise Time	t _r			34		ns
Turn-O ffDelay Time	t _{d(off)}			15		ns
Turn-O ffFall Time	t _f			17		ns

Notes:

1. Pulse Test: Pulse width ≤ 300μs, Duty cycle ≤ 0.5%.
2. Essentially independent of operating temperature typical characteristics.
3. RJA is the sum of the junction-to-case and case-to-ambient thermal resistance where the case thermal reference is defined as the solder mounting surface of the drain pins mounted on a 1 inch FR-4 with 2oz. square pad of copper
4. The maximum current rating is package limited
5. Guaranteed by design, not subject to production testing



Typical Characteristics

Fig.1 Output Characteristics

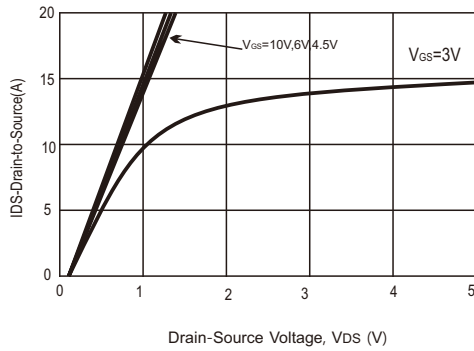


Fig.2 Typical Transfer Characteristics

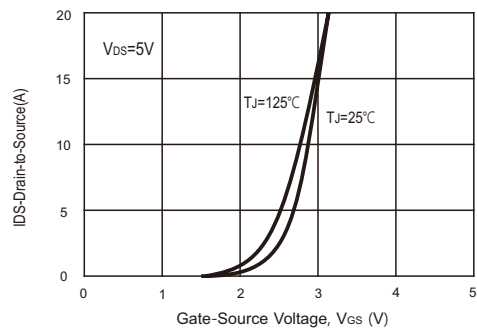


Fig.3 On-Resistance vs. Drain Current

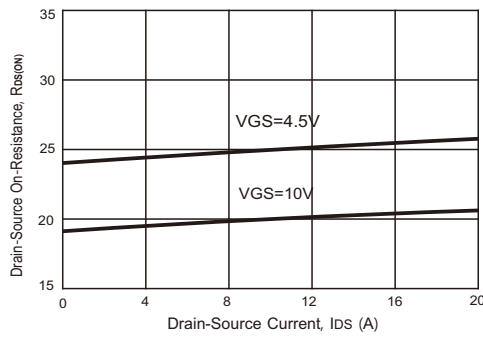


Fig.4 On-Resistance vs. Junction temperature

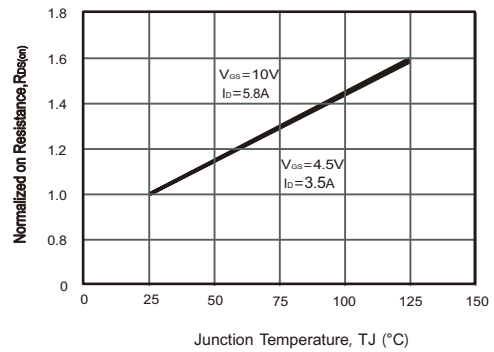


Fig.5 On-Resistance Variation with VGS

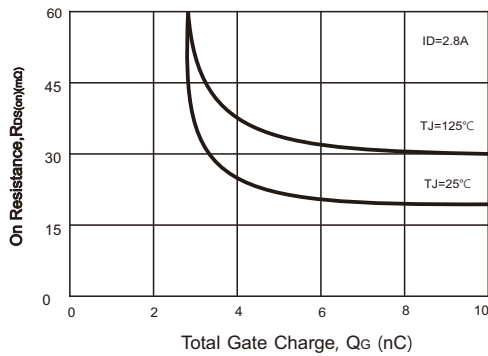


Fig.6 Capacitance Characteristics

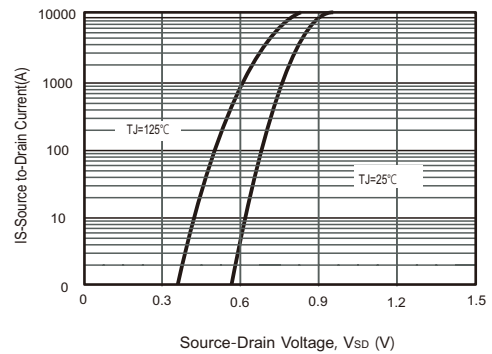


Fig.7 Gate-Charge Characteristics

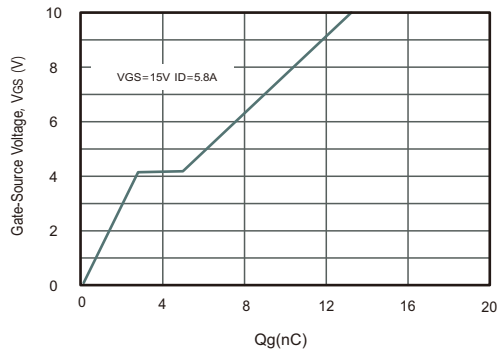
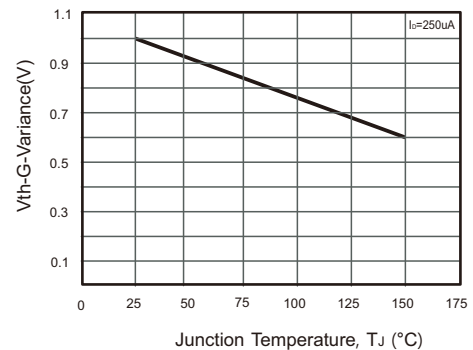
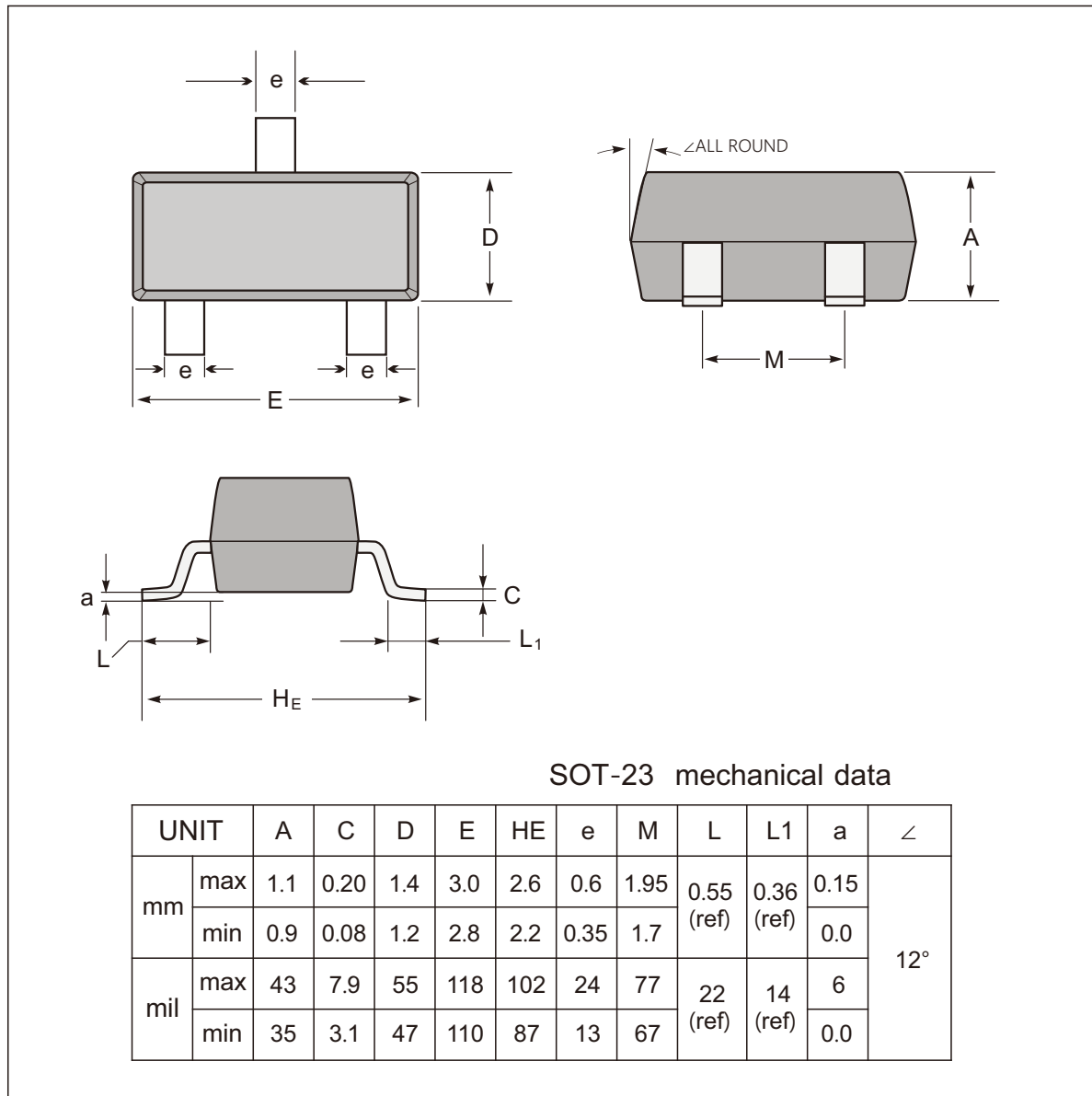


Fig.8 Threshold Voltage Variation with Temperature

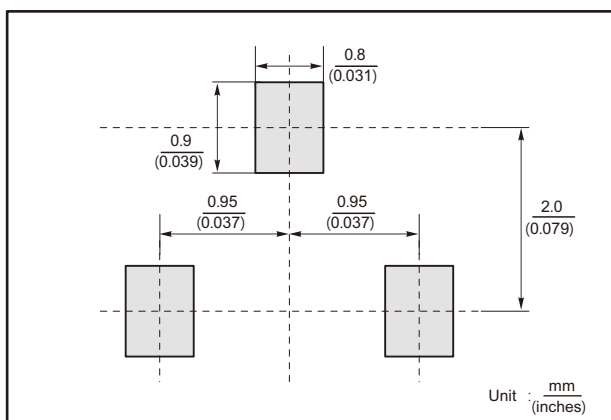




SOT-23 Package Outline Dimensions



The recommended mounting pad size



Marking

Type number	Marking code
NM3400A	3400A



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