



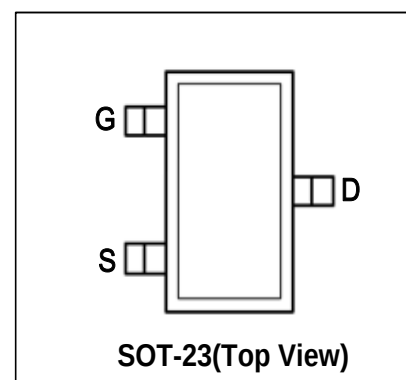
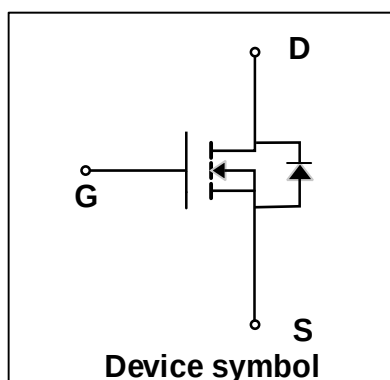
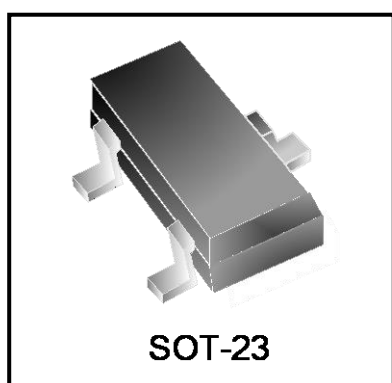
Features

- $V_{DS} = 60\text{ V}$, $I_D = 3\text{ A}$
 $R_{DS(on)} < 100\text{ m}\Omega$ @ $V_{GS} = 10\text{ V}$
 $R_{DS(on)} < 110\text{ m}\Omega$ @ $V_{GS} = 4.5\text{ V}$
- Trench LV MOSFET Technology

Mechanical Characteristics

- SOT-23 Package
- Marking : Making Code
- RoHS Compliant

Schematic & PIN Configuration



Absolute Maximum Rating ($T_{amb}=25^{\circ}\text{C}$ unless otherwise specified)

Parameter		Symbol	Value	Unit
Drain-Source Voltage		V_{DS}	60	V
Gate-Source Voltage		V_{GS}	± 20	V
Continuous Drain Current	$T_A = 25^{\circ}\text{C}$	I_D	3	A
Pulsed Drain Current ¹		I_{DM}	12	A
Power Dissipation	$T_A = 25^{\circ}\text{C}$	P_D	1.5	W
Operating Junction and Storage Temperature Range		T_J, T_{STG}	-55 to 150	$^{\circ}\text{C}$

Thermal Characteristics

Parameter	Symbol	Value	Unit
Thermal Resistance from Junction to Ambient ²	$R_{\theta JA}$	83.3	$^{\circ}\text{C/W}$

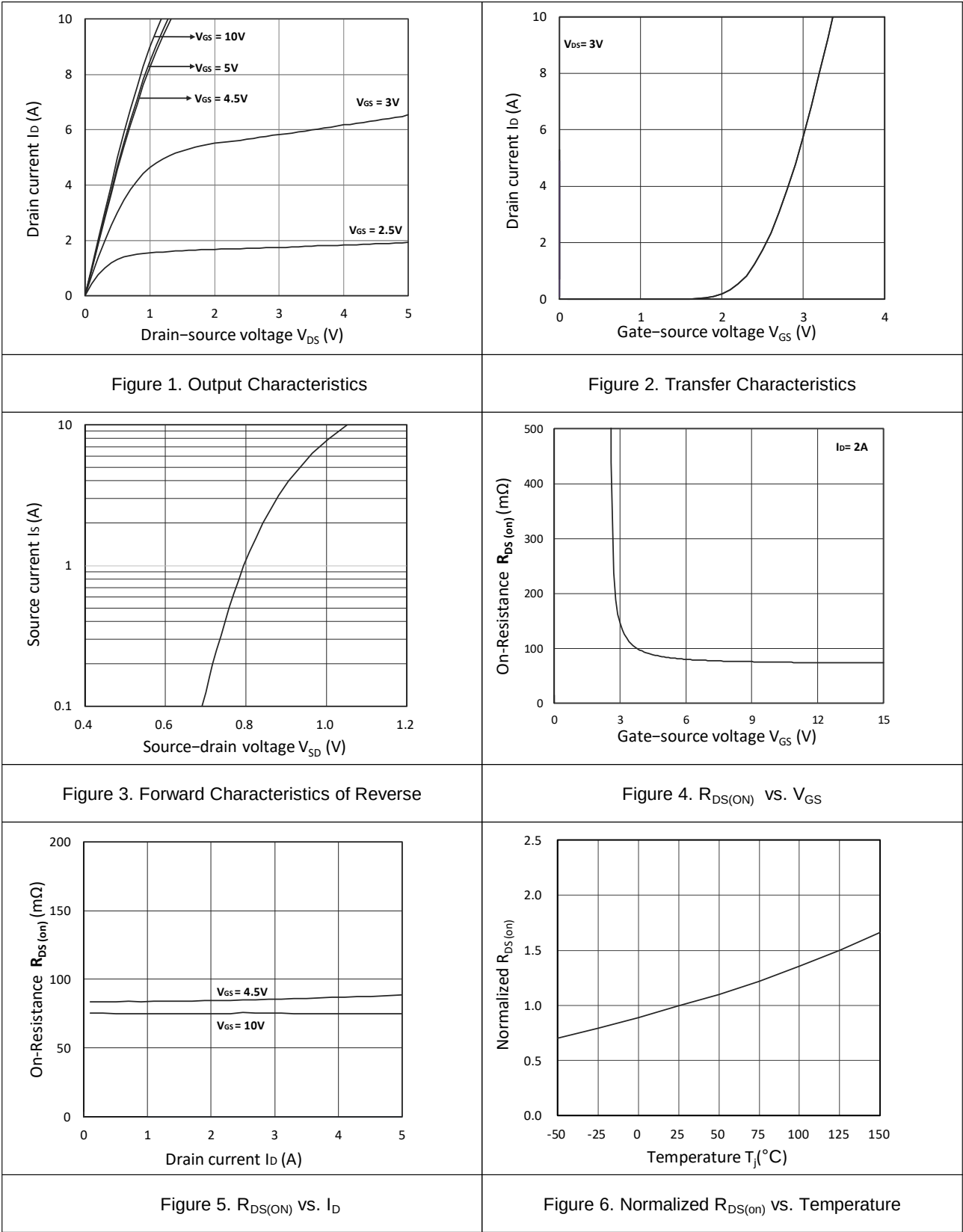
Electrical Characteristics ($T_{amb}=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Static Characteristics						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS} = 0\text{ V}, I_D = 250\mu\text{A}$	60	-	-	V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = 60\text{V}, V_{GS} = 0\text{V}$	-	-	1	μA
Gate-body Leakage Current	I_{GSS}	$V_{DS} = 0\text{ V}, V_{GS} = \pm 20\text{V}$	-	-	± 100	nA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu\text{A}$	1	-	2.5	V
Drain-Source On-state Resistance ³	$R_{DS(on)}$	$V_{GS} = 10\text{V}, I_D = 2\text{A}$	-	75	100	m Ω
		$V_{GS} = 4.5\text{V}, I_D = 1\text{A}$	-	88	110	
Dynamic Characteristics ⁴						
Input Capacitance	C_{iss}	$V_{GS} = 0\text{V}, V_{DS} = 30\text{V}, f = 1\text{MHz}$	-	530	-	pF
Output Capacitance	C_{oss}		-	24	-	
Reverse Transfer Capacitance	C_{rss}		-	20	-	
Switching Characteristics ⁴						
Total Gate Charge	Q_g	$V_{DS} = 30\text{V}, V_{GS} = 4.5\text{V}, I_D = 2\text{A}$	-	5	-	nC
Gate-Source Charge	Q_{gs}		-	1.7	-	
Gate-Drain Charge	Q_{gd}		-	1.5	-	
Turn-on Delay Time	$t_{d(on)}$	$V_{DD} = 30\text{V}, V_{GS} = 10\text{V}, I_D = 2\text{A}, R_G = 3\Omega$	-	6	-	ns
Turn-on Rise Time	t_r		-	14.5	-	
Turn-off Delay Time	$t_{d(off)}$		-	15	-	
Turn- off Fall Time	t_f		-	9.8	-	
Source-Drain Diode characteristics ⁴						
Body Diode Voltage ³	V_{SD}	$I_S = 1\text{A}, V_{GS} = 0\text{V}$	-	-	1.2	V
Continuous Source Current	I_S		-	-	3	A

Notes:

1. Repetitive rating, pulse width limited by junction temperature $T_{J(MAX)}=150^{\circ}\text{C}$.
2. The data tested by surface mounted on a 1 inch² FR-4 board with 2OZ copper, The value in any given application depends on the user's specific board design.
3. Pulse Test: Pulse width $\leq 300\mu\text{s}$, duty cycle $\leq 2\%$.
4. This value is guaranteed by design hence it is not included in the production test.

Typical Characteristics



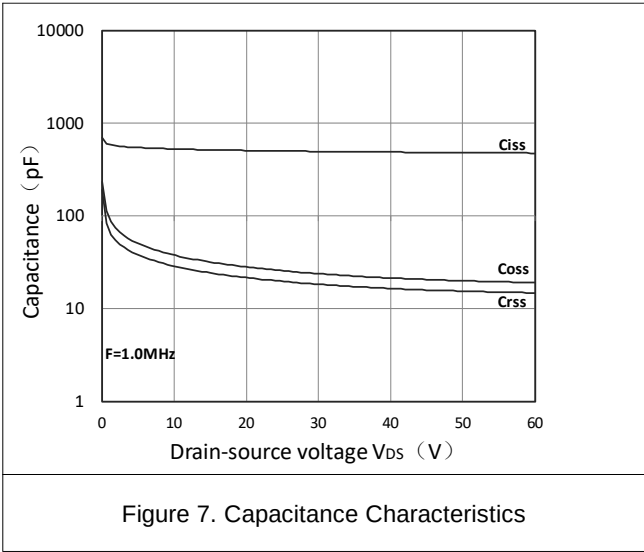


Figure 7. Capacitance Characteristics

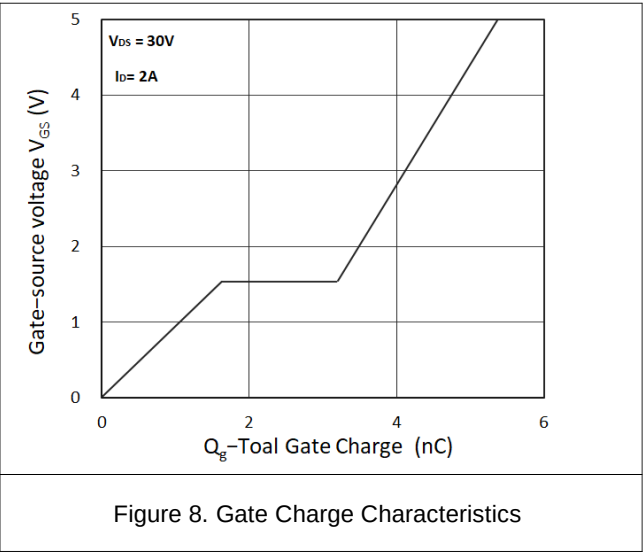
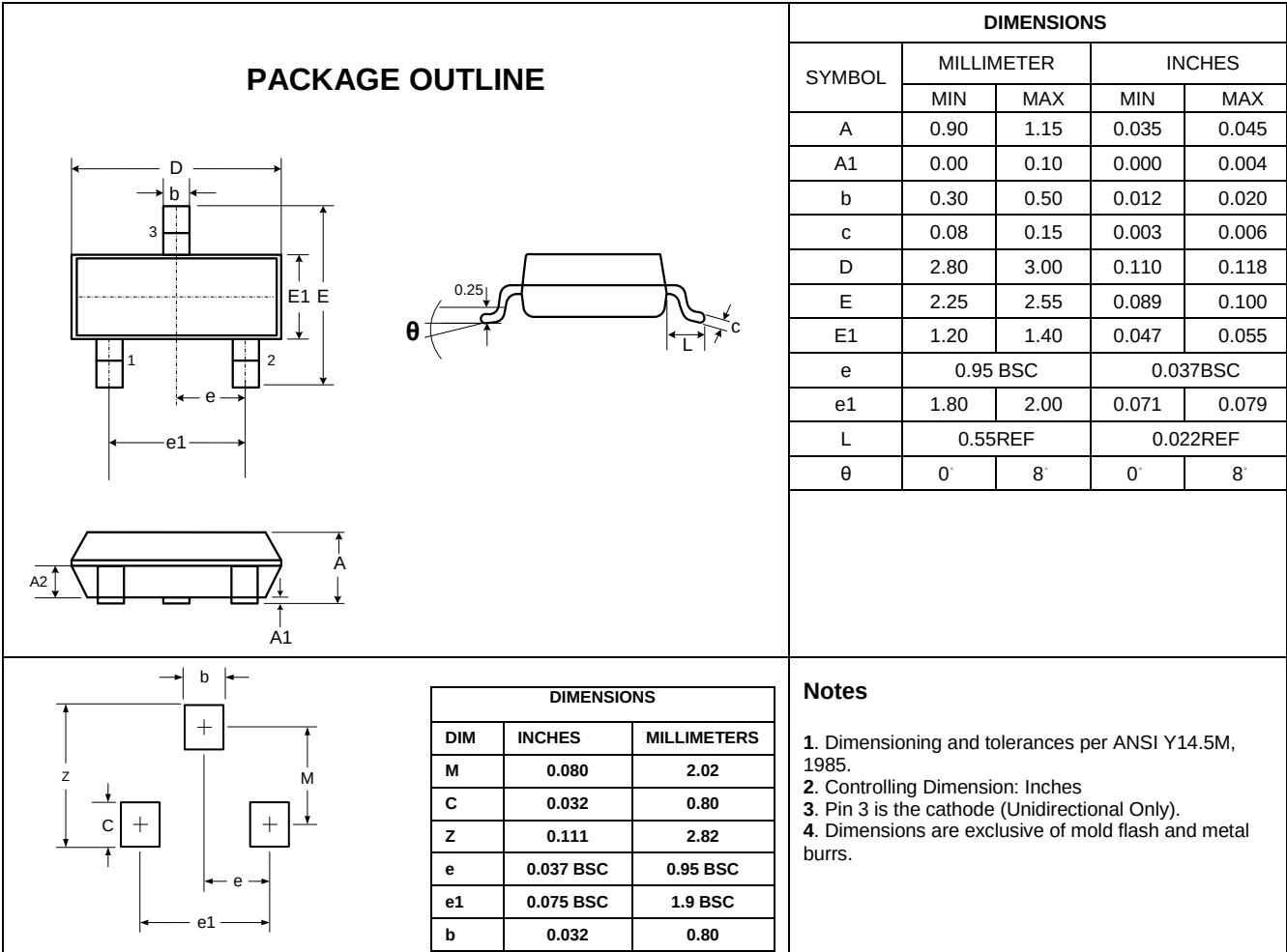


Figure 8. Gate Charge Characteristics

Outline Drawing – SOT-23



Marking Codes

Part Number	EM06N30M
Marking Code	

Package Information

Qty: 3k/Reel

Revision History

No.	Version	Date	Revision Item	Request	Function and characteristic checking	Package dimension checking	Typos checking
1	1.0	2018-09-13	Released Version	Qi Shu Kun	Qi Shu Kun	Liu Jia Ying	Liu Jia Ying