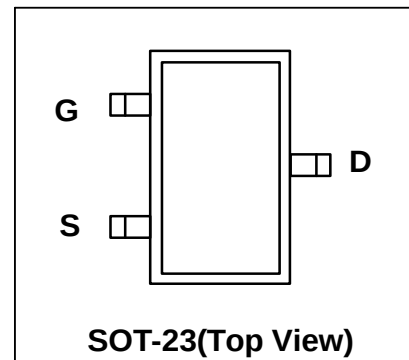
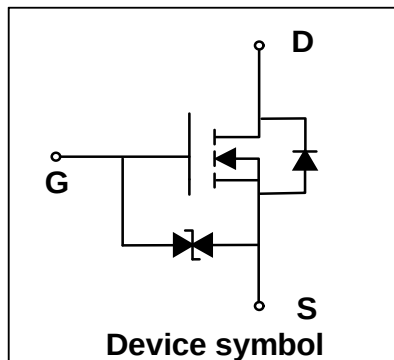
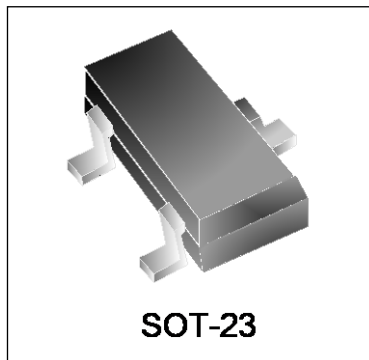


N-Channel MOSFET**Features**

- $V_{DS} = 60V$, $I_D = 0.34A$
 $R_{DS(on)} < 2.1\Omega @ V_{GS} = 10V$
 $R_{DS(on)} < 2.8\Omega @ V_{GS} = 4.5V$
- High Density Cell Design for Low $R_{DS(on)}$
- Voltage Controlled Small Signal Switch
- Rugged and Reliable
- High Saturation Current Capability
- ESD Protected

Mechanical Characteristics

- SOT-23 Package
- Marking : Making Code
- RoHS Compliant
- MSL1

Schematic & PIN Configuration**Absolute Maximum Rating**

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	60	V
Continuous Drain Current ($T_C = 25^\circ C$)	I_D	340	mA
Gate-Source Voltage	V_{GS}	± 20	V
Power Dissipation ($T_C = 25^\circ C$)	P_D	350	mW
Junction Temperature	T_J	150	$^\circ C$
Storage Temperature	T_{STG}	-55 to +150	$^\circ C$
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	357	$^\circ C/W$

Electrical Characteristics (Tamb=25°C unless otherwise noted)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Static Characteristics						
Drain-Source Breakdown Voltage	BV _{DSS}	V _{GS} = 0 V, I _D = 250μA	60	-	-	V
Gate Threshold Voltage ¹	V _{GS(th)}	V _{DS} = V _{GS} , I _D = 250μA	1	-	2.0	V
Drain Cut-off Current	I _{DSS}	V _{DS} = 48V, V _{GS} = 0 V	-	-	1	μA
Gate leakage Current	I _{GSS}	V _{GS} = ±20 V, V _{DS} =0 V	-	-	±10	μA
Drain-Source On-state Resistance ¹	R _{DS(on)}	V _{GS} = 10 V, I _D = 0.5A	-	1.3	2.1	Ω
		V _{GS} = 4.5 V, I _D = 0.2A	-	1.4	2.8	Ω
Dynamic characteristics						
Input Capacitance	C _{iss}	V _{DS} = 10 V, V _{GS} = 0 V, f = 1 MHz	-	29	-	pF
Output Capacitance	C _{oss}		-	7.5	-	
Reverse Transfer Capacitance	C _{rss}		-	2	-	
Switching Characteristics						
Turn-on Delay Time ²	t _{d(on)}	V _{DS} = 30V, V _{GEN} = 10V, I _D = 0.2A, R _G = 10Ω		8.5	-	ns
Turn-on Rise Time ²	t _r			6	-	
Turn-off Delay Time ²	t _{d(off)}		-	25.8	-	
Turn- off Fall Time ²	t _f		-	9	-	
Source-Drain Diode characteristics						
Diode Forward Voltage	V _{SD}	V _{GS} =0 V, I _S = 0.3A	-	-	1.5	V

Notes:

- 1.Pulse Test: Pulse Width ≤300μs, Duty Cycle ≤2%.
- 2.These parameters have no way to verify.

Typical Characteristics

Figure 1. Output Characteristics

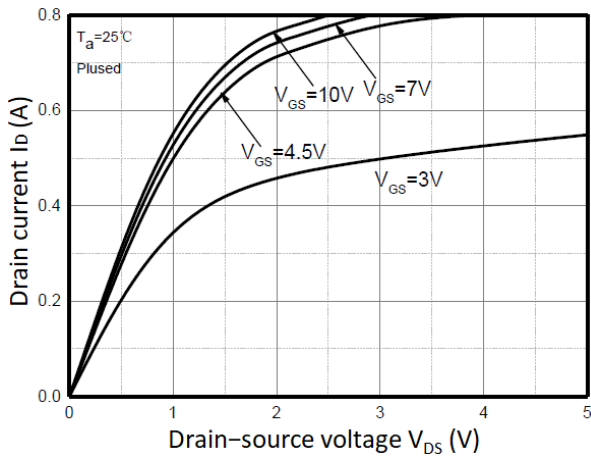
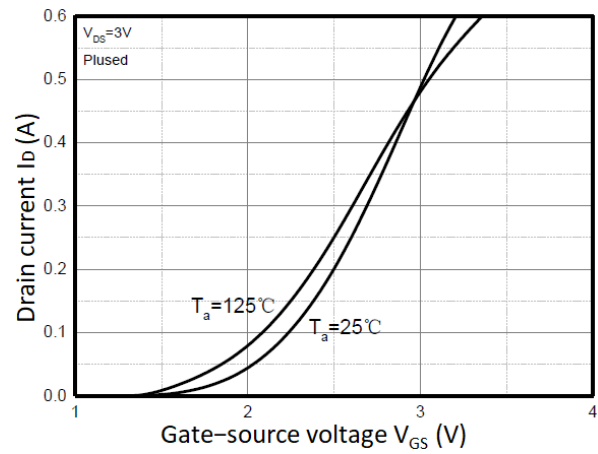
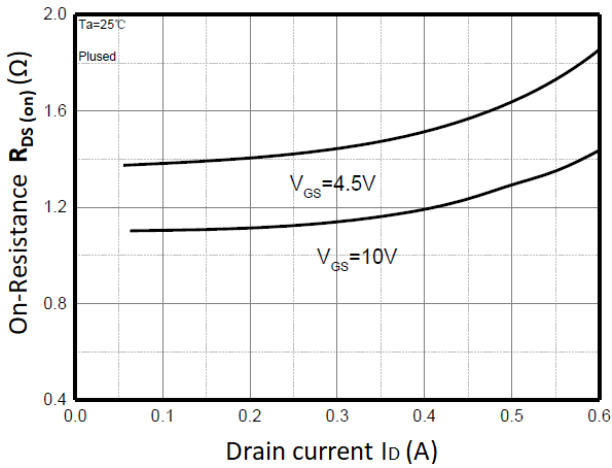
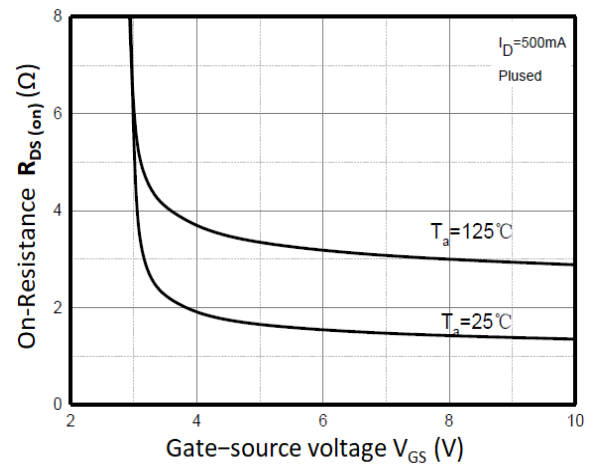
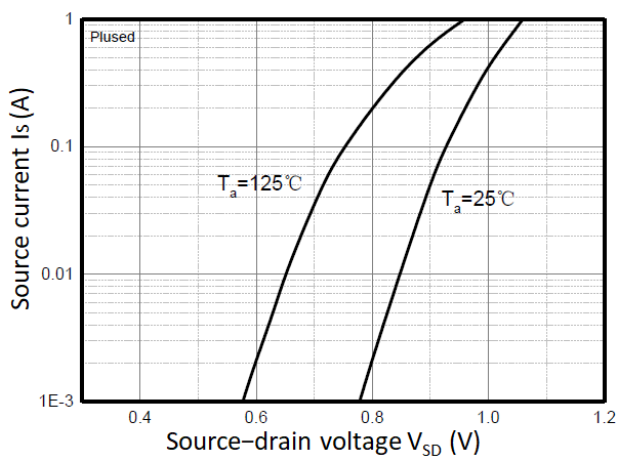
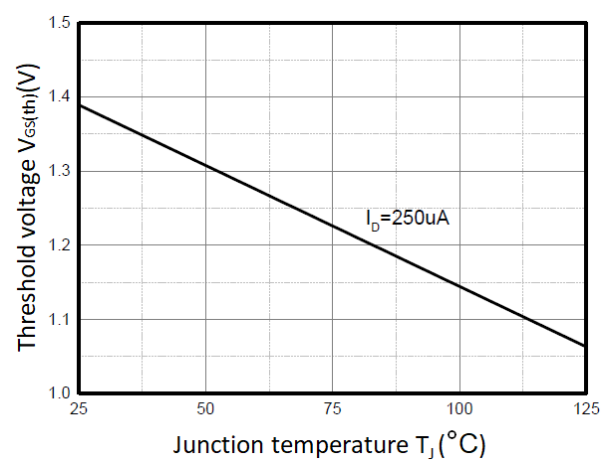
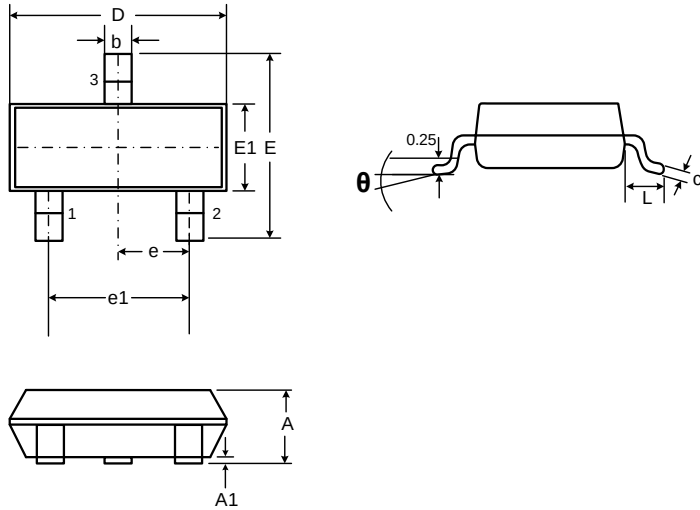


Figure 2. Transfer Characteristics

Figure 3. $R_{DS(on)}$ vs. I_D Figure 4. $R_{DS(on)}$ vs. V_{GS} Figure 5. I_S vs. V_{SD} Figure 6. $V_{GS(th)}$ vs. T_J 

Outline Drawing – SOT-23

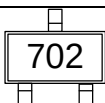
PACKAGE OUTLINE		DIMENSIONS			
		MILLIMETER		INCHES	
		MIN	MAX	MIN	MAX
	SYMBOL				
	A	0.90	1.15	0.035	0.045
	A1	0.00	0.10	0.000	0.004
	b	0.30	0.50	0.012	0.020
	c	0.08	0.15	0.003	0.006
	D	2.80	3.00	0.110	0.118
	E	2.25	2.55	0.089	0.100
	E1	1.20	1.40	0.047	0.055
	e	0.95 BSC		0.0374 BSC	
	e1	1.80	2.00	0.071	0.079
	L	0.45	0.65	0.018	0.026
	θ	0	8°	0	8°

DIMENSIONS		
DIM	INCHES	MILLIMETERS
M	0.0795	2.02
C	0.0315	0.80
Z	0.111	2.82
e	0.037 BSC	0.95 BSC
e1	0.075 BSC	1.9 BSC
b	0.0315	0.80

Notes

1. Dimensioning and tolerances per ANSI Y14.5M, 1985.
2. Controlling Dimension: Inches
3. Pin 3 is the cathode (Unidirectional Only).
4. Dimensions are exclusive of mold flash and metal burrs.

Marking Codes

Part Number	EM06N03M
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	2018-03-14	Released Version	Qi Shu Kun	Qi Shu Kun	Liu Jia Ying	Liu Jia Ying