

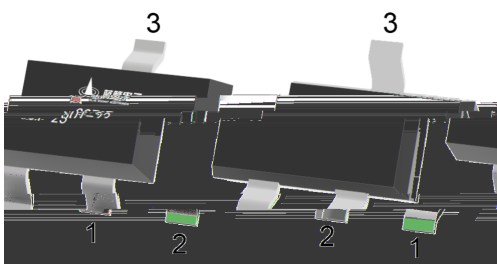
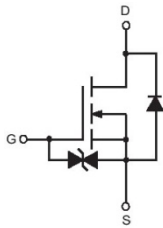
Rev.A Dec.-2023

SOT-23          N          MOS  
 N-CHANNEL MOSFET in a SOT-23 Plastic Package.

2KV          AEC-Q101

Sensitive gate trigger current and Low Holding current.ESD protected up to 2KV, Qualified to AEC-Q101 Standards for High Reliability, HF Product.

Intended for use in general purpose switching and phase control applications, Meet the stringent requirements of automotive applications.

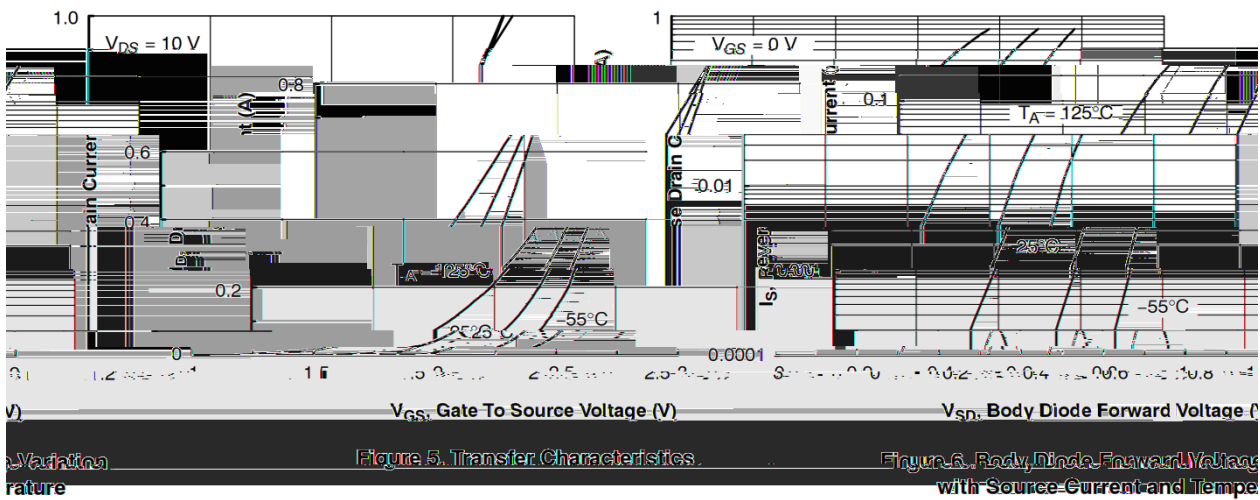
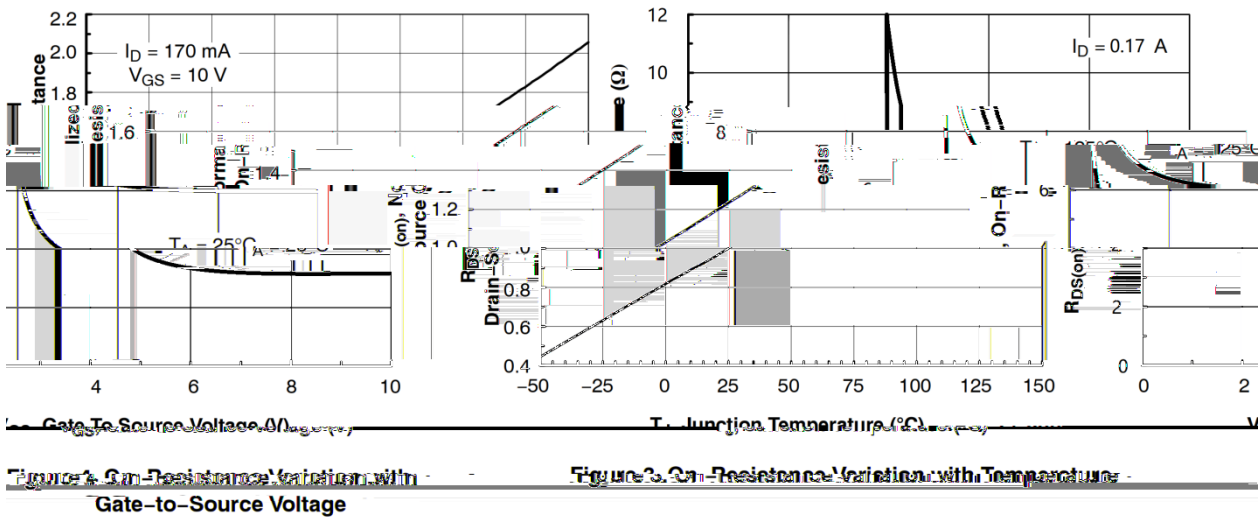
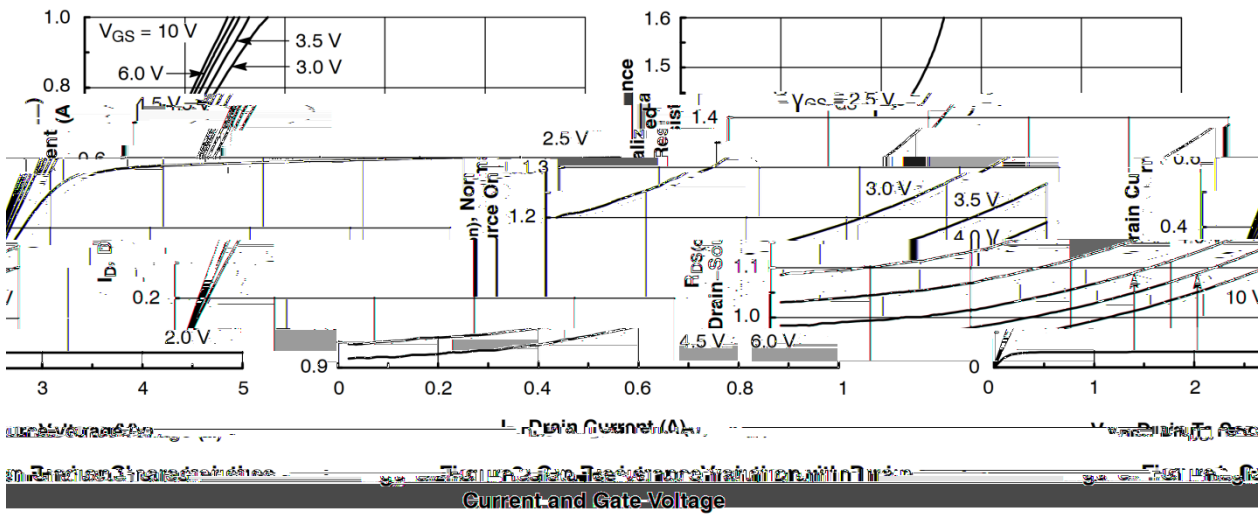


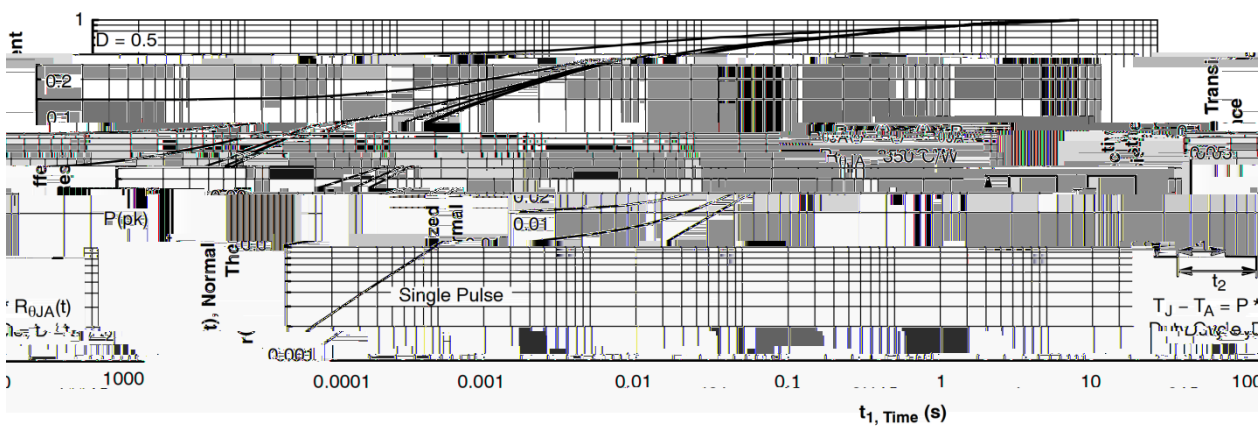
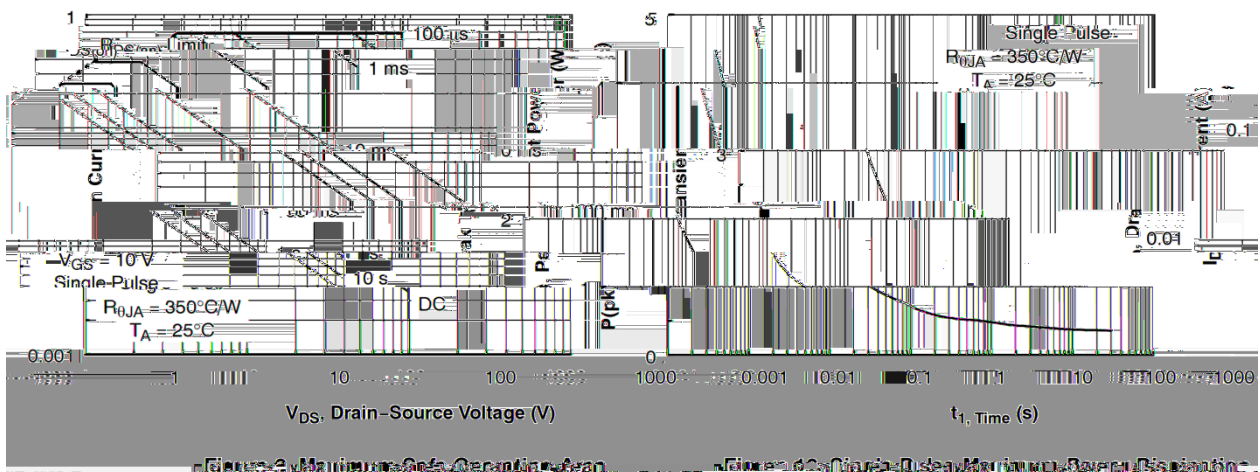
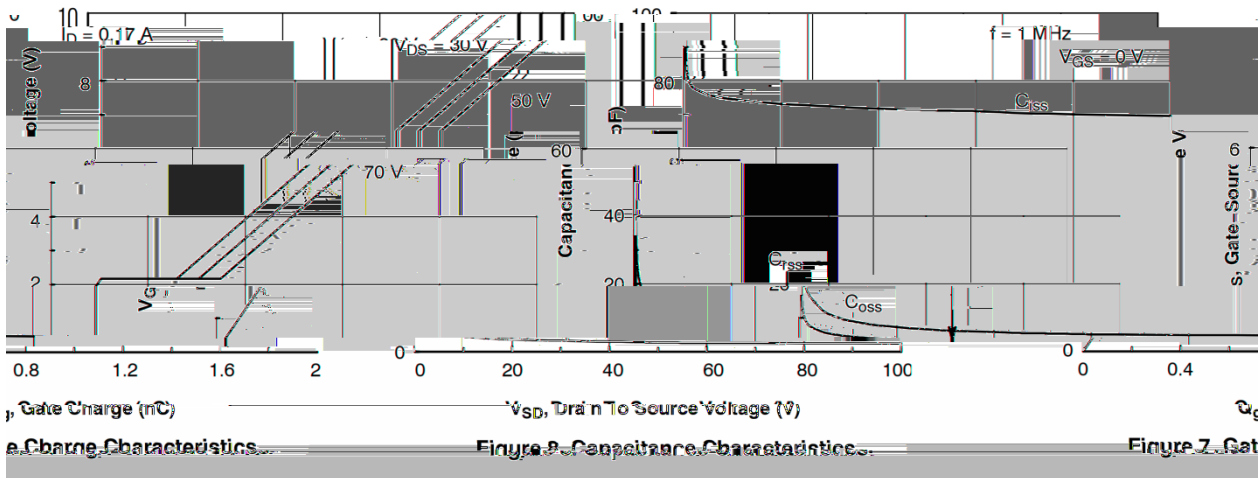
PIN1 G          PIN 2 S          PIN 3 D

Marking	QSA
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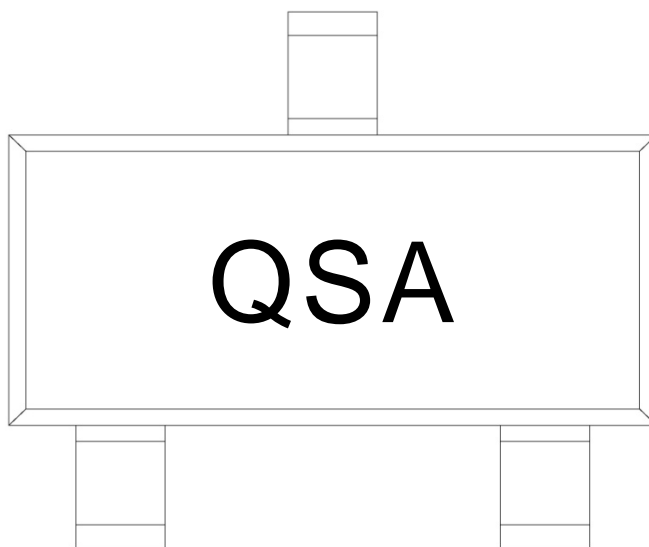
Parameter	Symbol	Rating	Unit
Drain-Source Voltage	$V_{DSS}$	100	V
Drain Current – Continuous	$I_D$	170	mA
Drain Current– Pulsed	$I_D(T_C=25^\circ\text{C})$	680	mA
Continuous Drain–Source	$I_S$	170	mA
Gate-Source Voltage	$V_{GS}$	$\pm 20$	V
Power Dissipation	$P_D$	0.36	W
Thermal Resistance, Junction-to-Ambient	$R_{\theta JA}$	350	$^\circ\text{C}/\text{W}$
Operating and Storage Junction Temperature Range	$T_J, T_{STG}$	-55 to 150	

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain–Source Breakdown Voltage	$BV_{DSS}$	$V_{GS}=0V$ $I_D=250\mu A$	100			V
Zero Gate Voltage Drain Current	$I_{DSS(1)}$	$V_{DS}=100V$ $V_{GS}=0V$			1.0	$\mu A$
	$I_{DSS(2)}$	$V_{DS}=100V$ $V_{GS}=0V$ $T_J=85$			30	$\mu A$
Gate–Body Leakage.	$I_{GSS}$	$V_{GS}=\pm 20$ $V_{DS}=0V$			$\pm 10$	$\mu A$
On–State Drain Current	$I_{D(on)}$	$V_{DS}=5.0V$ $V_{GS}=10V$	0.68			A
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$ $I_D=250\mu A$	1.5	2.0	2.5	V
Static Drain–Source On–Resistance	$R_{DS(on)(1)}$	$V_{GS}=10V$ $I_D=0.17A$		3.3	6.0	$\Omega$
	$R_{DS(on)(2)}$	$V_{GS}=4.5V$ $I_D=0.17A$		4.0	10	$\Omega$
Drain–Source Diode Forward Voltage	$V_{SD}$	$V_{GS}=0V$ $I_S=0.34A$		0.8	1.3	V
Input Capacitance	$C_{iss}$	$V_{DS}=25V$ $V_{GS}=0V$ $f=1.0MHz$		73		pF
Output Capacitance	$C_{oss}$			7		pF
Reverse Transfer Capacitance	$C_{rss}$			3.4		pF
Turn–On Delay Time	$t_{d(on)}$	$I_D=0.28A$ $V_{GS}=10V$ $V_{DD}=30V$ $R_G=6.0\Omega$		1.8		ns
Turn–On Rise Time	$t_r$			11		ns
Turn–Off Delay Time	$t_{d(off)}$			19		ns
Turn–Off Fall Time	$t_f$			2.6		ns









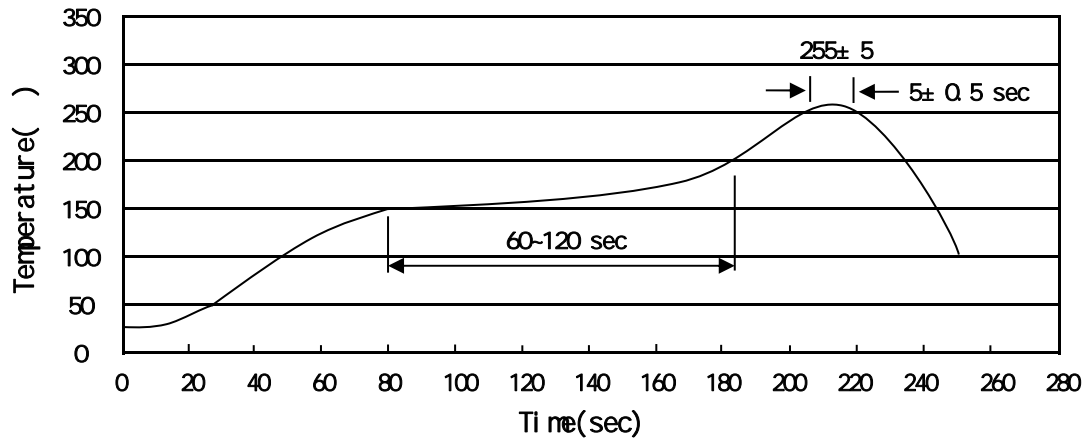
Q

SA

Note:

Q: Automobile halogen-free product Code

SA: Product Type Code



Note:

- |   |       |     |           |         |   |
|---|-------|-----|-----------|---------|---|
| 1 | 150   | 200 | 60        | 120sec; | 1.Preheating:150~200 °C, Time:60~120sec.  |
| 2 | 255±5 |     | 5±0.5sec; |         | 2.Peak Temp.:255±5 °C, Duration:5±0.5sec. |
| 3 |       | 2   | 10        | /sec.   | 3.Cooling Speed: 2~10 °C/sec.             |

260±5

10±1 sec.

Temp.:260±5°C

Time:10±1 sec

/ REEL

Package Type	Units					Dimension (unit mm <sup>3</sup> )		
	Units/Reel	Reels/Inner Box	Units/Inner Box	Inner Boxes/Outer Box	Units/Outer Box	Reel	Inner Box	Outer Box
SOT-23	3,000	10	30,000	6	180,000	7 x8	180x120x180	390x385x205