

BRCS5N10MCQ

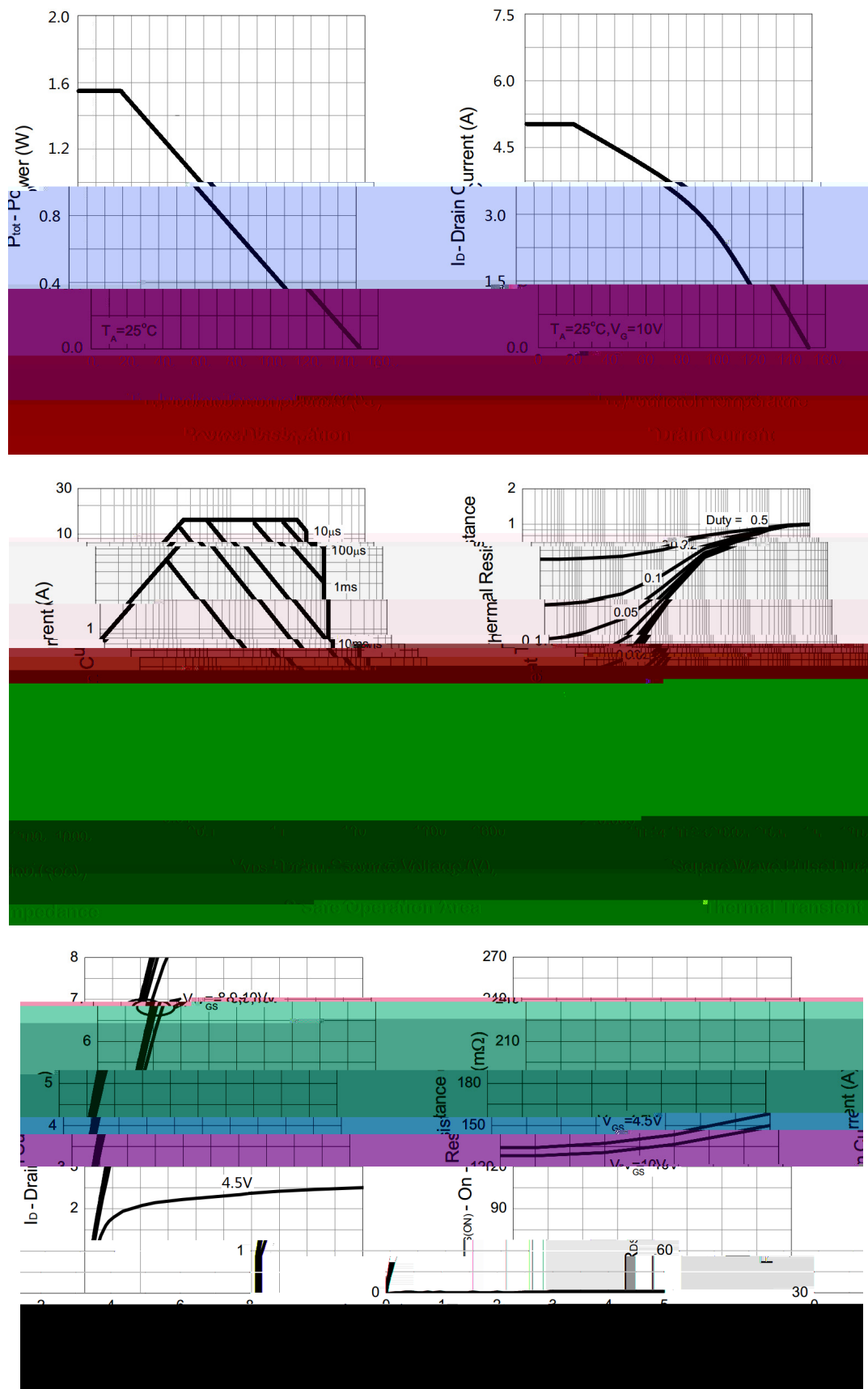
/ Absolute Maximum Ratings($T_a=25^\circ\text{C}$)

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	100	V
Gate-Source Voltage	V_{GS}	± 20	V
Maximum Drain Current - Continuous	I_D	5.0	A
Drain Current- Pulsed	I_{DM}	15	A
Power Dissipation	P_D	1.55	W
Maximum Junction Temperature	T_J	150	
Storage Temperature Range	T_{STG}	-55 to 150	
Maximum Resistance –Junction to Ambient	$R_{\theta JA}$	80.7	/W

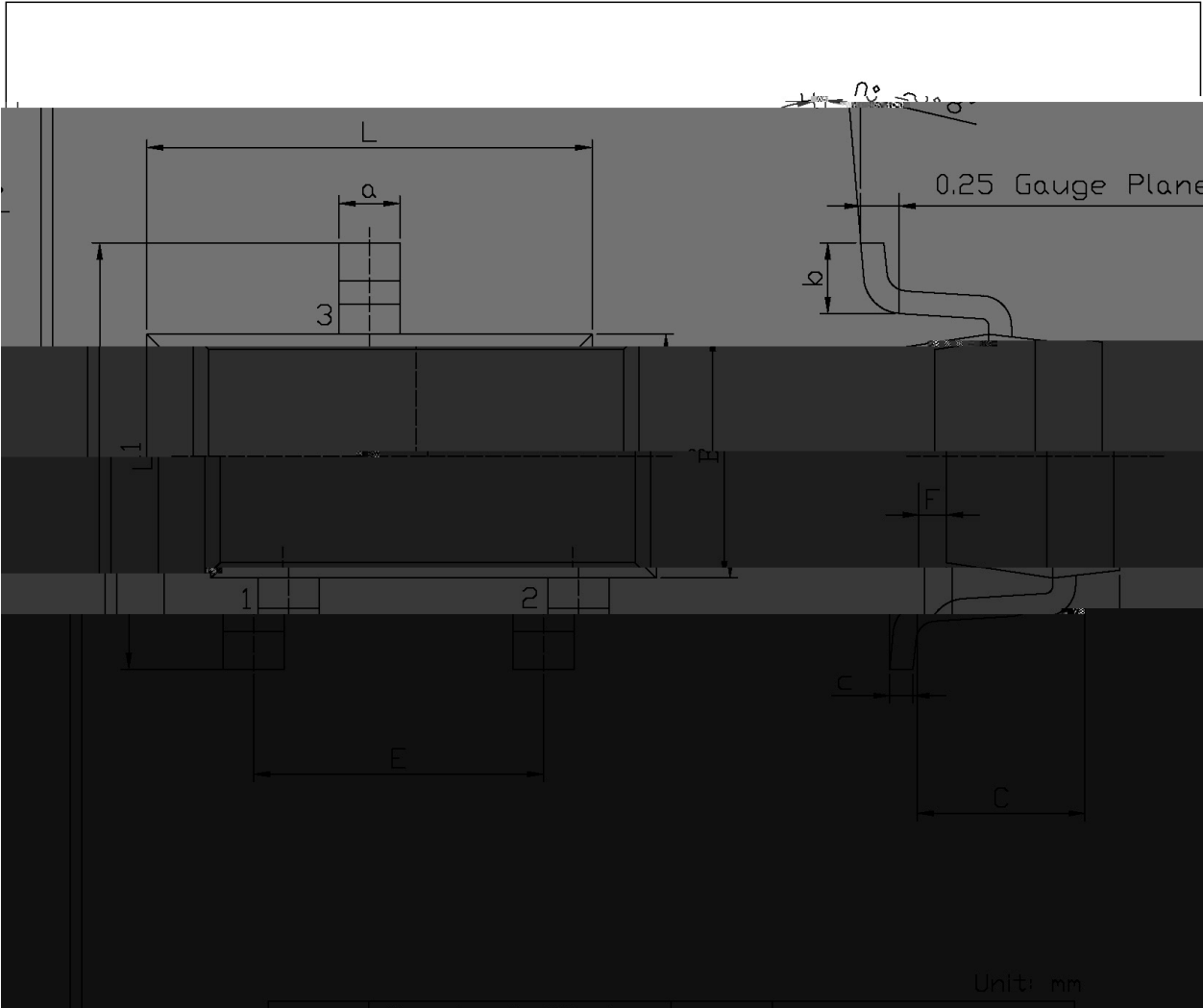
/ Electrical Characteristics($T_a=25^\circ\text{C}$)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain–Source Breakdown Voltage	BV_{DS}	$V_{GS}=0V$ $I_{DS}=250\text{ A}$	100			V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=100V$ $V_{GS}=0V$			1	A
Gate–Body Leakage.	I_{GSS}	$V_{GS}=\pm 20V$ $V_{DS}=0V$			± 10	A
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$ $I_{DS}=250\text{ A}$	1		3	V
Static Drain–Source On–Resistance	$R_{DS(on)(1)}$	$V_{GS}=10V$ $I_D=5A$		120	175	m Ω
	$R_{DS(on)(2)}$	$V_{GS}=4.5V$ $I_D=2A$		150	235	m Ω
Drain-Source Diode Forward Voltage	V_{SD}	$V_{GS}=0V$ $I_F=1A$			1.3	V
Input Capacitance	C_{iss}	$V_{DS}=0V$ $V_{GS}=25V$ $f=1.0\text{MHz}$		200		pF
Output Capacitance	C_{oss}			150		pF
Reverse Transfer Capacitance	C_{rss}			30		pF
Turn–On Delay Time	$t_{d(on)}$	$I_{DS}=1A$ $V_{GEN}=10V$ $V_{DD}=30V$ $R_L=30\Omega$ $R_G=6\Omega$		11		ns
Turn–On Rise Time	t_r			10		ns
Turn–Off Delay Time	$t_{d(off)}$			21		ns
Turn–Off Fall Time	t_f			5		ns
Total Gate Charge	Q_g	$V_{DS}=50V$ $V_{GS}=10V$ $I_{DS}=5A$		9.5		nC
Gate- Source Charge	Q_{gs}			1.9		nC
Gate- Drain Charge	Q_{gd}			2.1		nC

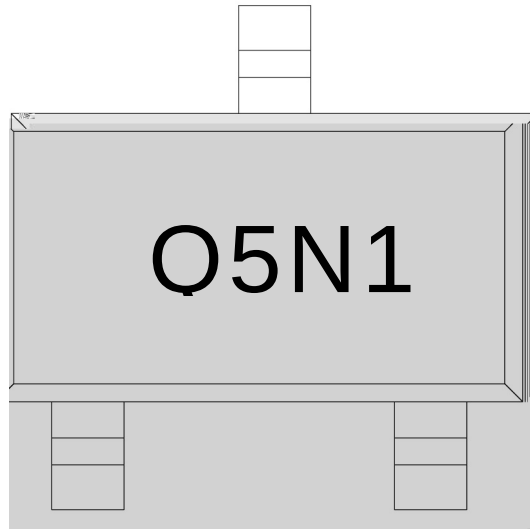
/ Electrical Characteristic Curve



/ Package Dimensions



/ Marking Instructions



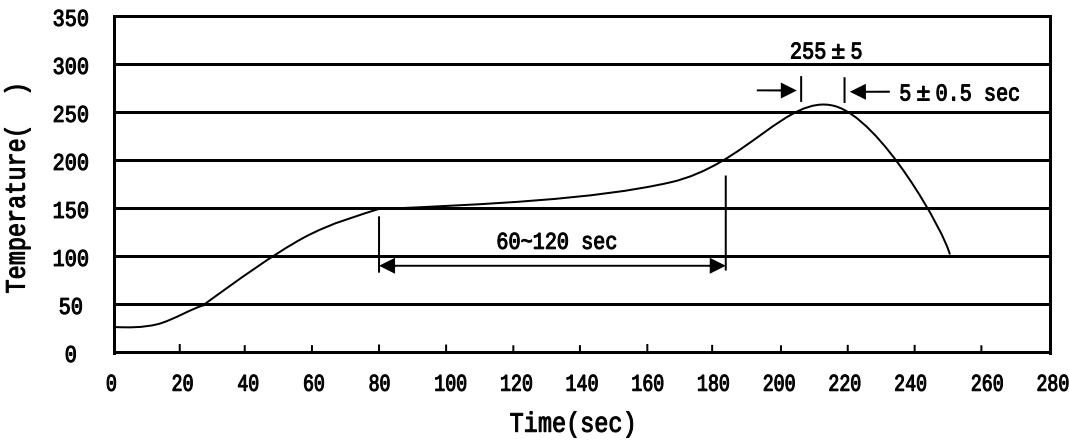
5N1

Note:

Q: Automobile halogen-free product Code

5N1: Product Type Code

() / Temperature Profile for IR Reflow Soldering(Pb-Free)



Note:

- 1

150 200

60 120sec;

1.Preheating:150~200 , Time:60~120sec.
- 2

255 5

5 0.5sec;

2.Peak Temp.:255 5 , Duration:5 0.5sec.
- 3

2 10 /sec.

3.Cooling Speed: 2~10 /sec.

/ Resistance to Soldering Heat Test Conditions

260 5 10 1 sec. Temp.:260±5 Time:10±1 sec

/ Packaging SPEC.

/ REEL

Package Type 封装形式	Units 包装数量					Dimension 包装尺寸 (unit: mm ³)		
	Units/Reel 只/卷盘	Reels/Inner Box 卷盘/盒	Units/Inner Box 只/盒	Inner Boxes/Outer Box 盒/箱	Units/Outer Box 只/箱	Reel	Inner Box 盒	Outer Box 箱
SOT23-3	3,000	10	30,000	4	120,000	7 ×8	210×205×205	445×435×230

/ Notices