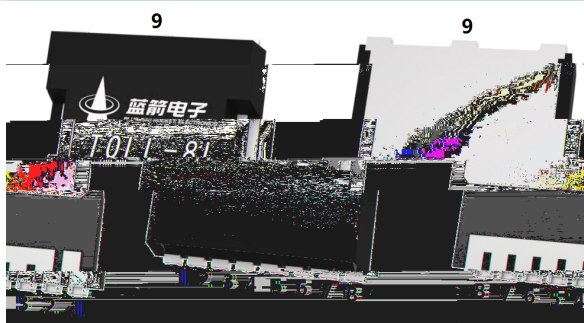
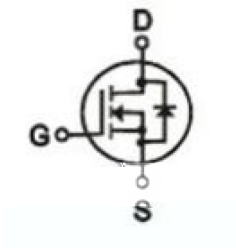


Rev.A Mar.-2025

TOLL-8L N

$V_{DS}(V)=100V$ $I_D=259A$
 $R_{DS(ON)}@10V \leq 2.0m\Omega$ (Typ. $1.6m\Omega$)
 HF Product.

DC/DC
 DC/DC converter, Power switch, Motor drives.



PIN1 G PIN2 3 4 5 6 7 8 S PIN9 D

See Marking Instructions.

Parameter		Symbol	Rating	Unit
Drain-Source Voltage		V_{DS}	100	V
Drain Current - Continuous		I_D	259	A
Drain Current – Pulsed		I_{DM}	1036	A
Gate-Source Voltage		V_{GS}	20	V
Power Dissipation		P_{tot}	250	W
Single Pulse Avalanche Energy($V_{DD}=50V, L=0.1mH$)		E_{AS}	205	mJ
Junction and Storage Temperature Range		T_j, T_{stg}	-55 to 150	
Thermal resistance, junction - ambient	Steady-State	$R_{\theta JA}$	40	
Thermal resistance, junction - case	Steady-State	$R_{\theta JC}$	0.5	

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
	BV_{DSS}	$I_D=250\mu A, V_{GS}=0V$	100			V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=100V, V_{GS}=0V$			1	μA
Gate-Body leakage current	I_{GSS}	$V_{DS}=0V, V_{GS}= \pm 20V$			100	nA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\mu A$	2.2	3.0	3.8	V
Static Drain-Source On-Resistance	$R_{DS(ON)}$	$V_{GS}=10V, I_D=100A$		1.6	2.0	m
Diode Forward Voltage	V_{SD}	$I_S=100A, V_{GS}=0V$		0.9	1.2	V
Gate Resistance	R_g	$f=1.0MHz$		1.2		
Input Capacitance	C_{iss}	$V_{DS}=50V, V_{GS}=0V, f=1.0MHz$		10120		pF
Output Capacitance	C_{oss}			1360		
Reverse Transfer Capacitance	C_{rss}			50		
Total Gate Charge	Q_g	$V_{GS}=10V, I_{DS}=100A, V_{DS}=50V$		176		nC
Gate Source Charge	Q_{gs}			47		
Gate Drain Charge	Q_{gd}			54		

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Turn-On Delay Time	$t_{d(on)}$	$V_{GS}=10V$ $V_{DS}=50V$ $R_G=6$ $I_D=100A$		85		ns
Turn-On Rise Time	t_r			137		
Turn-Off Delay Time	$t_{d(off)}$			92		
Turn-Off Fall Time	t_f			98		
Reverse Recovery Time	t_{rr}	$I_F = 50 A, V_{DS} = 50 V$ $di_{SD}/dt = 100 A/s$		79		ns
Reverse Recovery Charge	Q_{rr}			180		nC

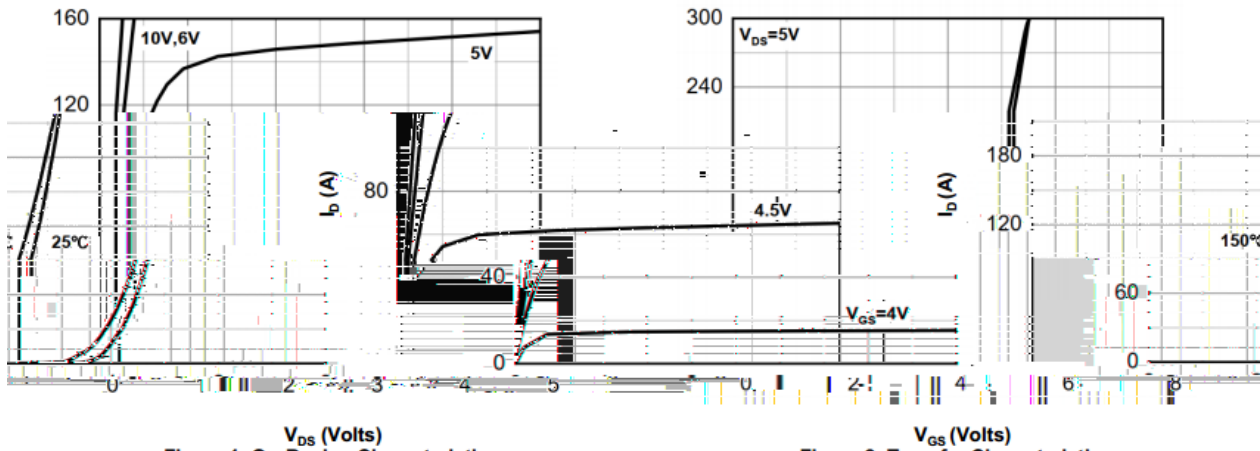


Figure 1: On-Region Characteristics

Figure 2: Transfer Characteristics

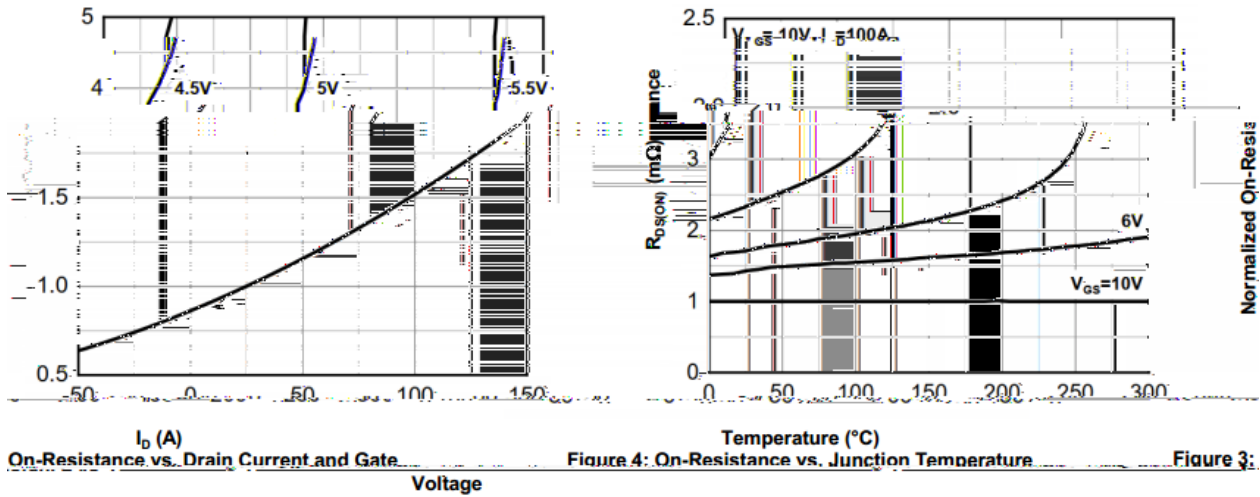


Figure 4: On-Resistance vs. Junction Temperature

Figure 3:

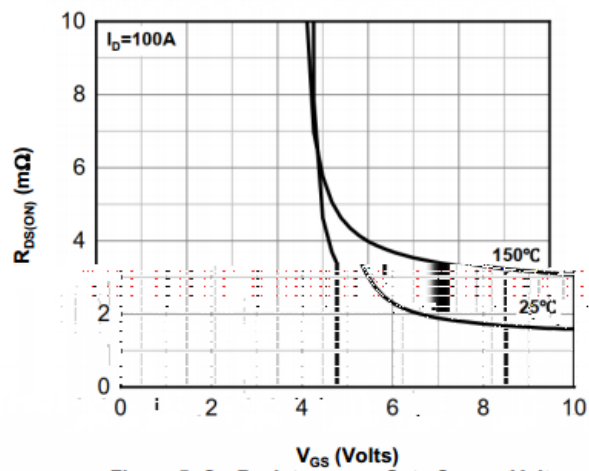


Figure 5: On-Resistance vs. Gate-Source Voltage

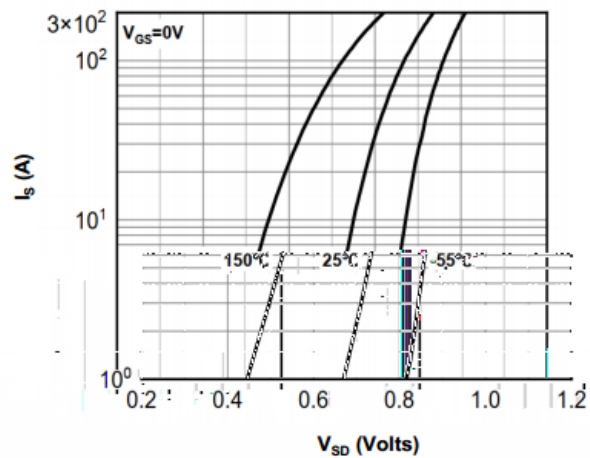
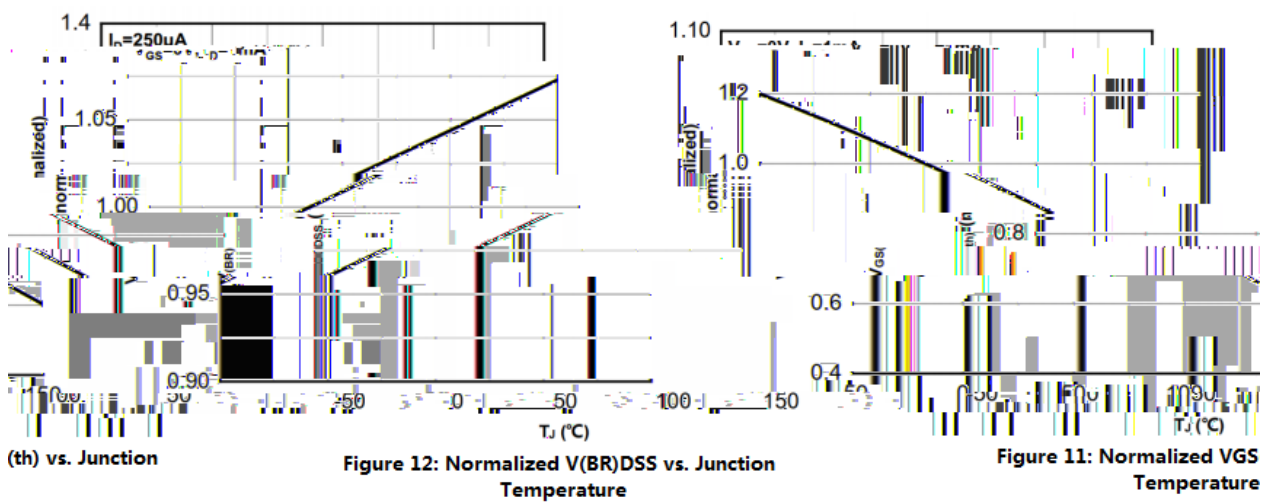
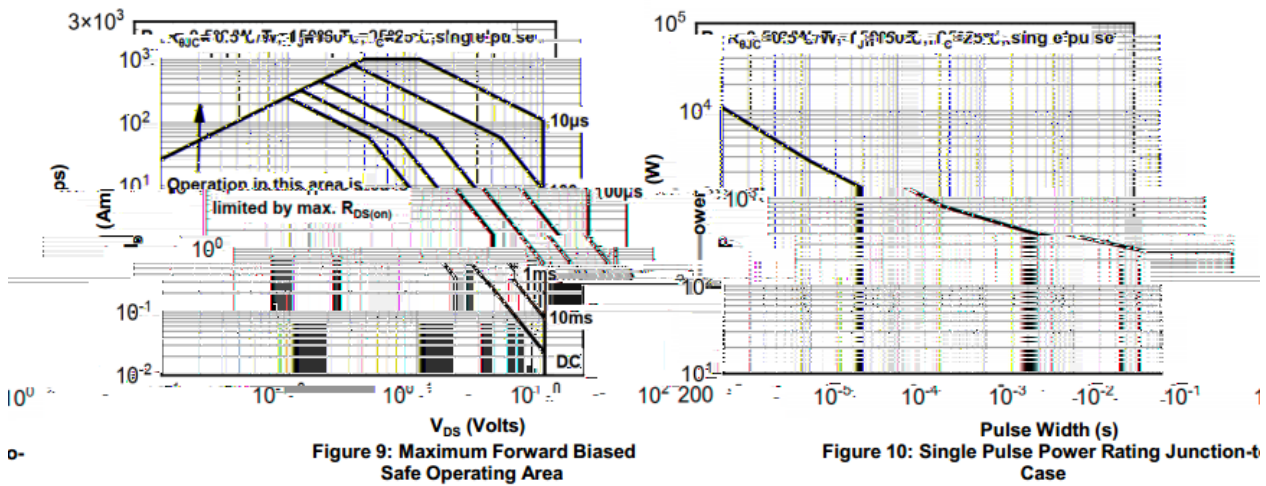
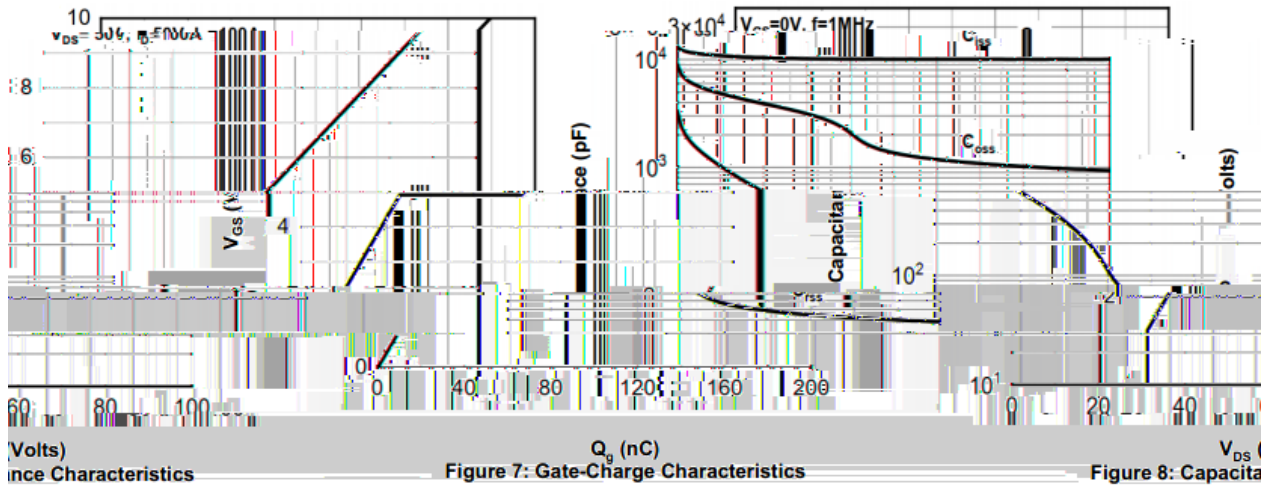
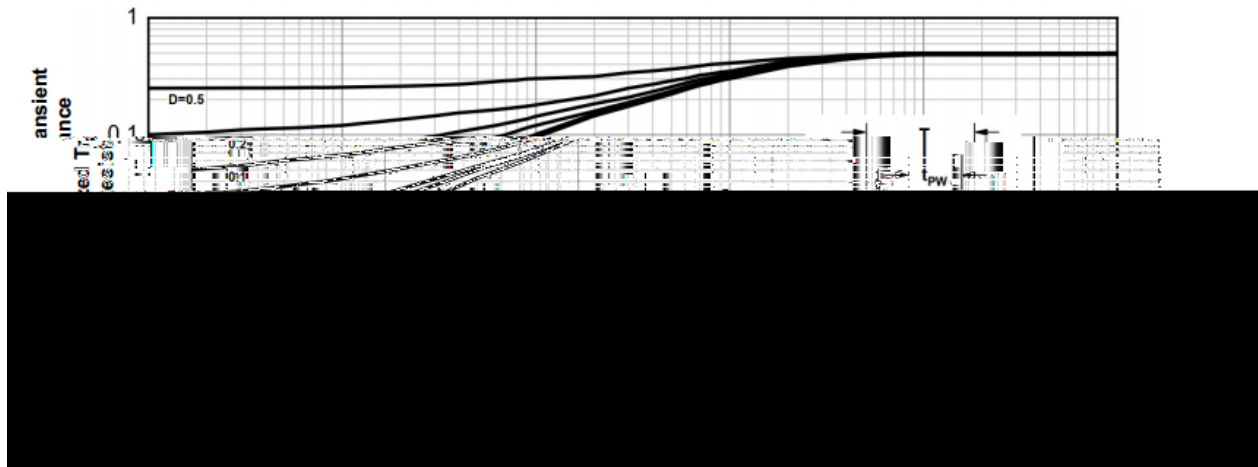
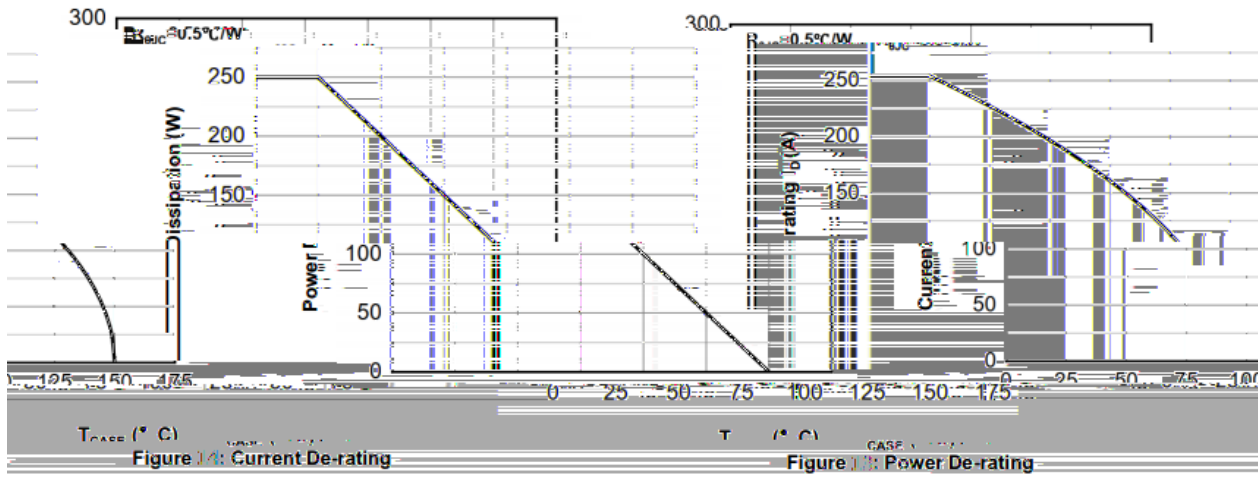
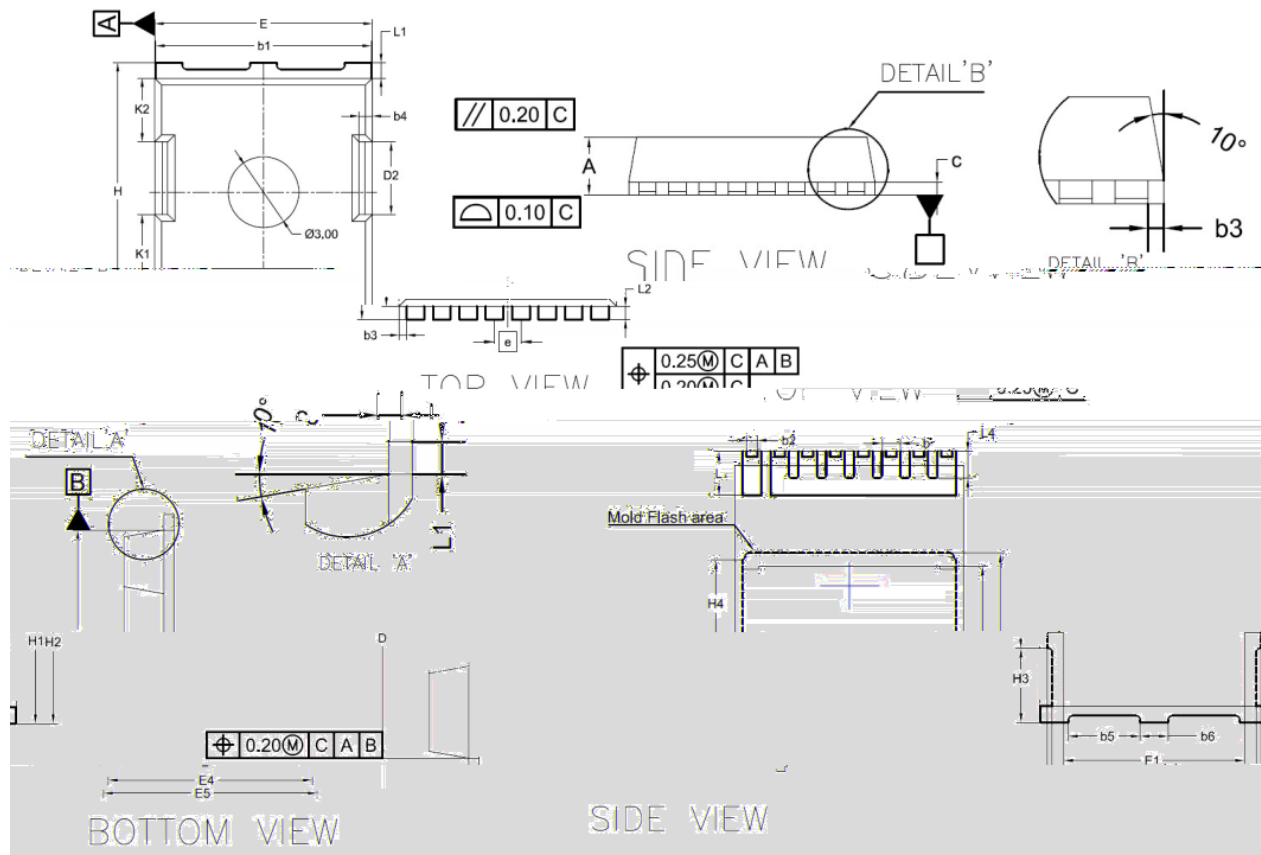


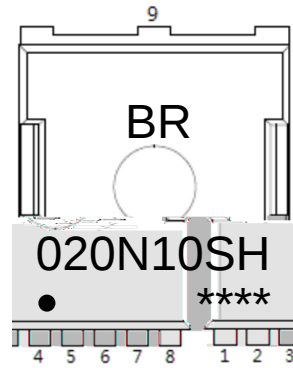
Figure 6: Body-Diode Characteristics







Symbol	Dimensions In Millimeters			Symbol	Dimensions In Millimeters		
	MIN.	NOM.	MAX.		MIN.	NOM.	MAX.



020N10SH

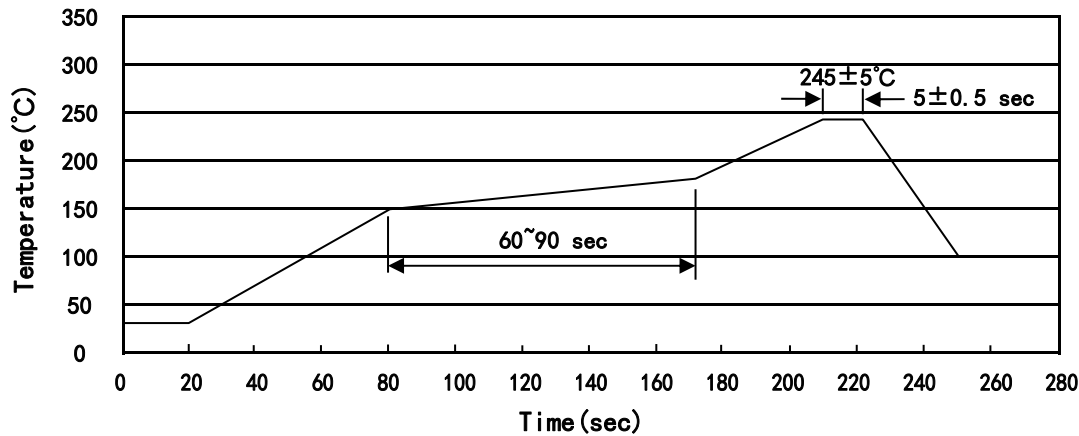
Note

BR Company Code

020N10SH Product Type Code

****: Lot No. Code, code change with Lot No.

Temperature Profile for IR Reflow Soldering(Pb-Free)



Note:

- 1

150 180

60 90sec;

1.Preheating:150~180 , Time:60~90sec.
- 2

245 5

5 0.5sec;

2.Peak Temp.:245 5 , Duration:5 0.5sec.
- 3

2 10 /sec.

3. Cooling Speed: 2~10 /sec.

260 5

10 1 sec.

Temp.:260±5

Time:10±1 sec

/ REEL

Package Type	Units					Dimension (unit mm ³)		
	Units/Reel	Reels/Inner Box	Units/Inner Box	Inner Boxes/Outer Box	Units/Outer Box	Reel	Inner Box	Outer Box
TOLL-8L	2,000	1	2,000	6	12,000	13"×24	360×360×50	380×335×366

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