

BRCS850C03MF

Rev.A Mar.-2025

/ Descriptions

SOT23-6

Complementary Enhancement MOSFET in a SOT23-6 Plastic Package.

/ Features

N-channel

$V_{DS}(V)=30V$

$I_D=2.7A$

$R_{DS(ON)}@10V<80m$ (TYP. 66 m)

$R_{DS(ON)}@4.5V<130m$ (TYP. 95 m)

HF Product.

P-channel

$V_{DS}(V)=-30V$

$I_D=-2.6A$

$R_{DS(ON)}@-10V<95 m$ (TYP. 75 m)

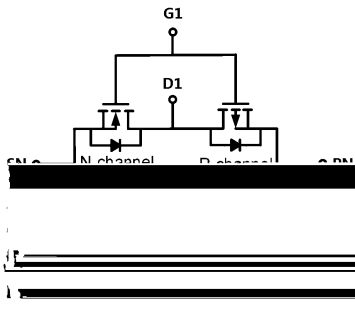
$R_{DS(ON)}@-4.5V<150 m$ (TYP. 88 m)

/ Applications

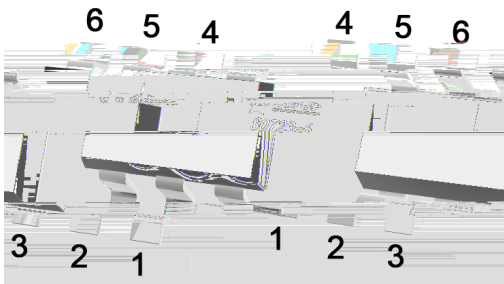
PWM

PWM applications, Load switch.

/ Equivalent Circuit



/ Pinning



PIN1 G1 PIN 2 SN PIN 3 G2

PIN 4 D2 PIN 5 SP PIN 6 D1

/ Marking

See Marking Instructions.

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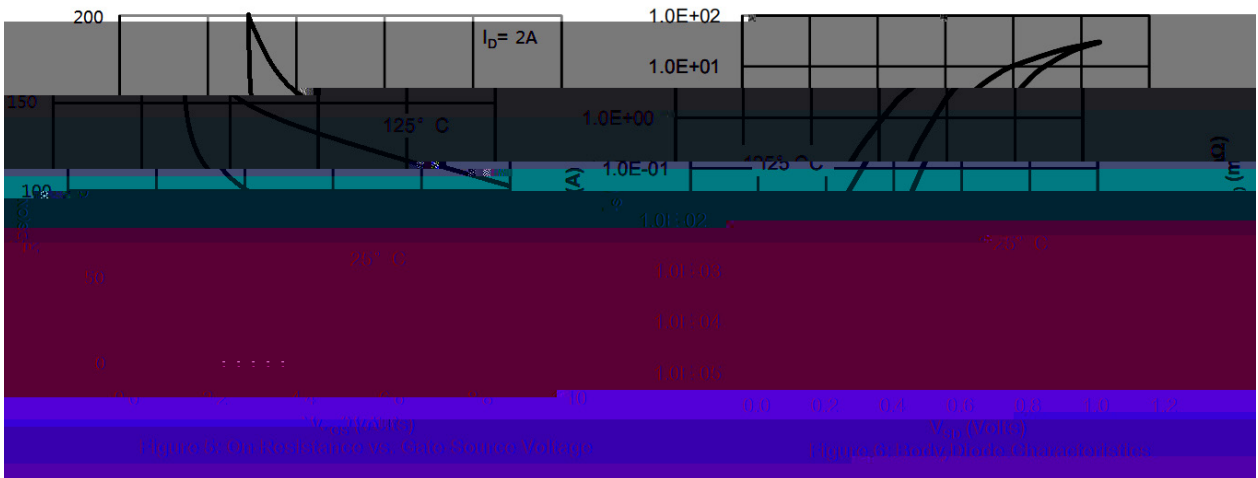
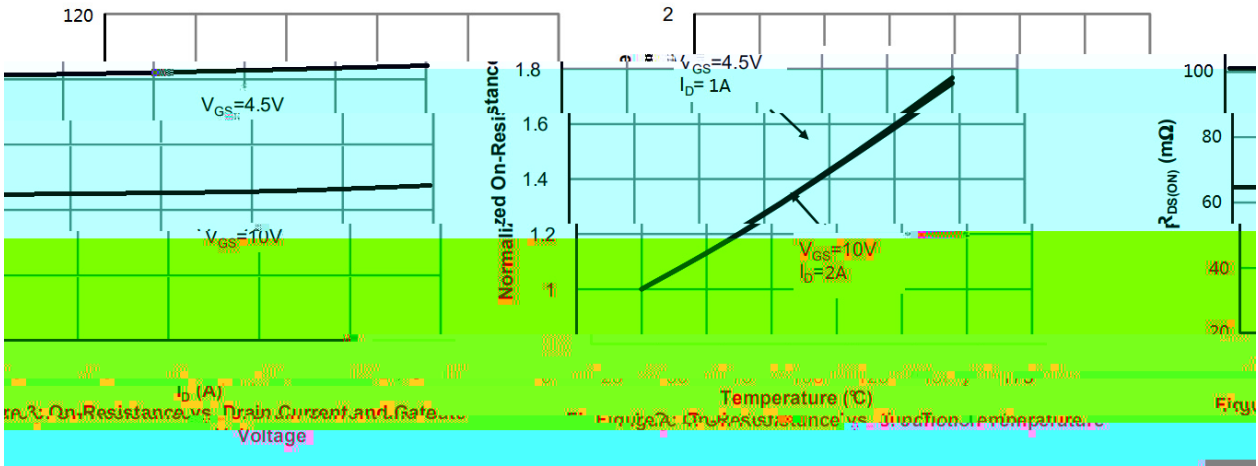
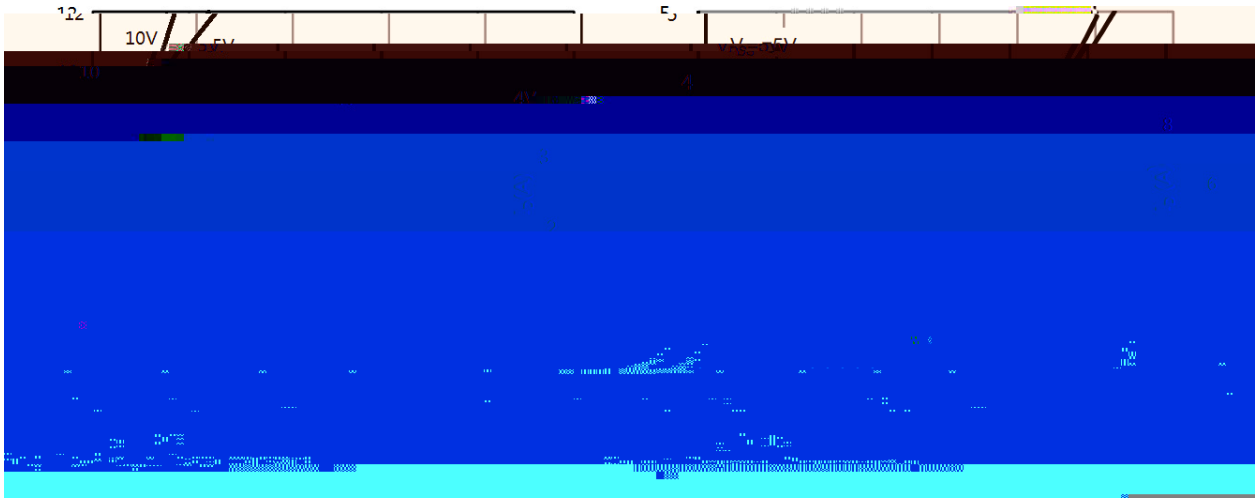


DATA SHEET

Parameter	Symbol	Rating		Unit
		N-channe	P-channell	
Drain-Source Voltage	V_{DSS}	30	-30	V
Gate-Source Voltage	V_{GSS}	±20		V
Continuous Drain Current	I_D	2.7	-2.6	A
Pulsed Drain Current	I_{DM}	7	-7	A
Power Dissipation	P_D	1		W
Junction and Storage Temperature Range	T_J, T_{STG}	-55 to +150		
Maximum Junction-to-Ambient	R_{JA}	125		/W

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit	
Drain-Source Breakdown Voltage	BV_{DSS}	$V_{GS}=0$ $I_D=250\mu A$	30	31.5		V	
Zero Gate Voltage Drain Current	I_{DSS}	$V_{GS}=0$ $V_{DS}=24V$			1.0	μA	
Gate-Body Leakage.	I_{GSS}	$V_{GS}=\pm 20V$ $V_{DS}=0V$			±100	nA	
Static Drain-Source On-Resistance	$R_{DS(on)1}$	$V_{GS}=10V$ $I_D=2.0A$		66	80	m	
	$R_{DS(on)2}$	$V_{GS}=4.5V$ $I_D=1.0A$		95	130	m	
Drain-Source Diode Forward Voltage	V_{SD}	$V_{GS}=0V$ $I_D=1.0A$			1.2	V	
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$ $I_D=250\mu A$	1.0	1.45	2.0	V	
Input Capacitance	C_{iss}	$V_{DS}=15V$ $V_{GS}=0V$ $f=1.0MHz$		200		pF	
Output Capacitance	C_{oss}				30		pF
Reverse Transfer Capacitance	C_{rss}				20		pF
Total Gate Charge	Q_g	$V_{GS}=10V,$ $V_{DS}=15V$ $I_D=2A$		5		nC	
Gate Source Charge	Q_{gs}			0.8			
Gate Drain Charge	Q_{gd}			1.7			

N- / N-CHANNEL Electrical Characteristic Curve



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蓝箭电子
BLUE ROCKET ELECTRONICS

DATA SHEET

N-

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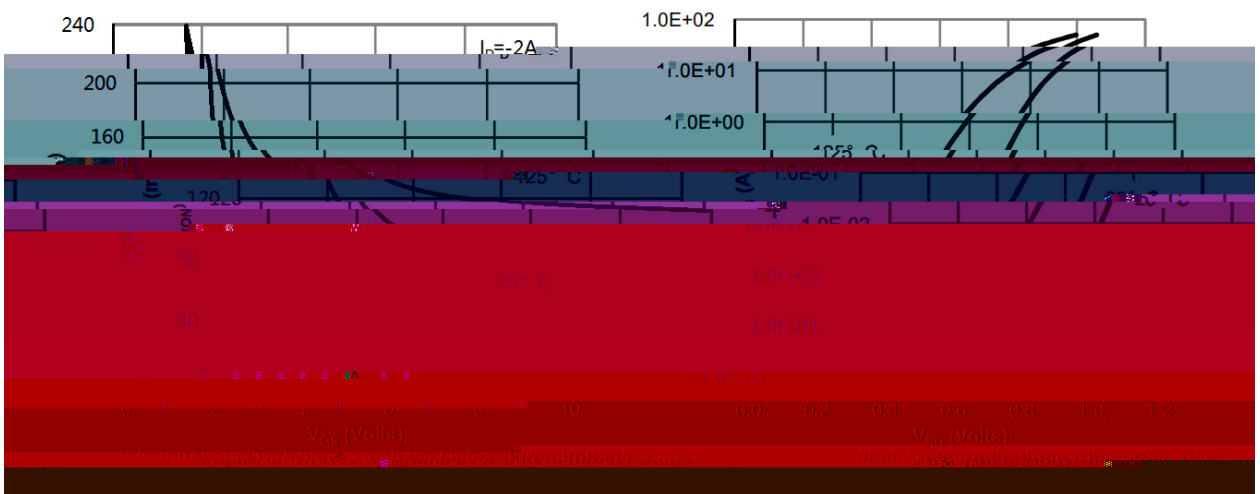
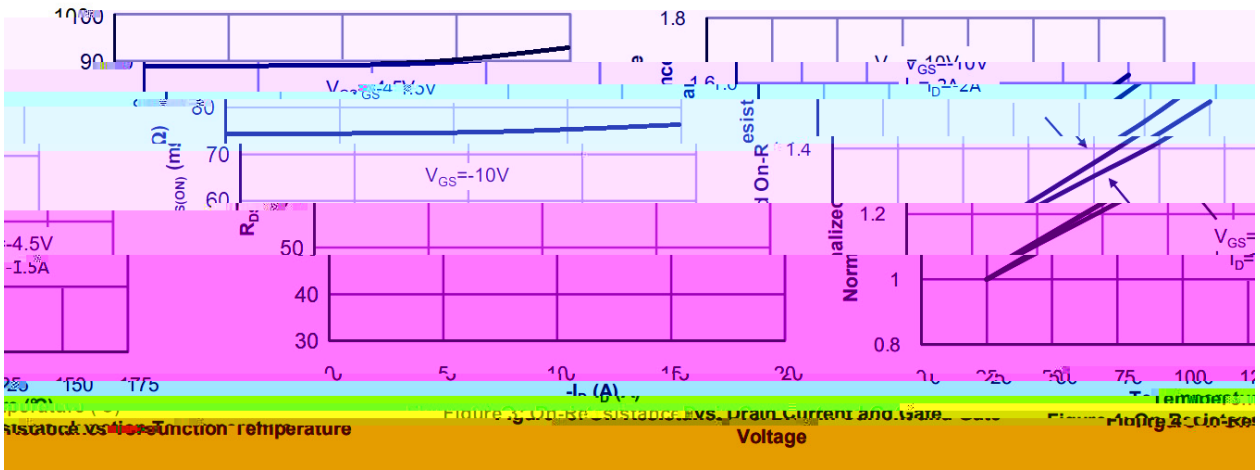
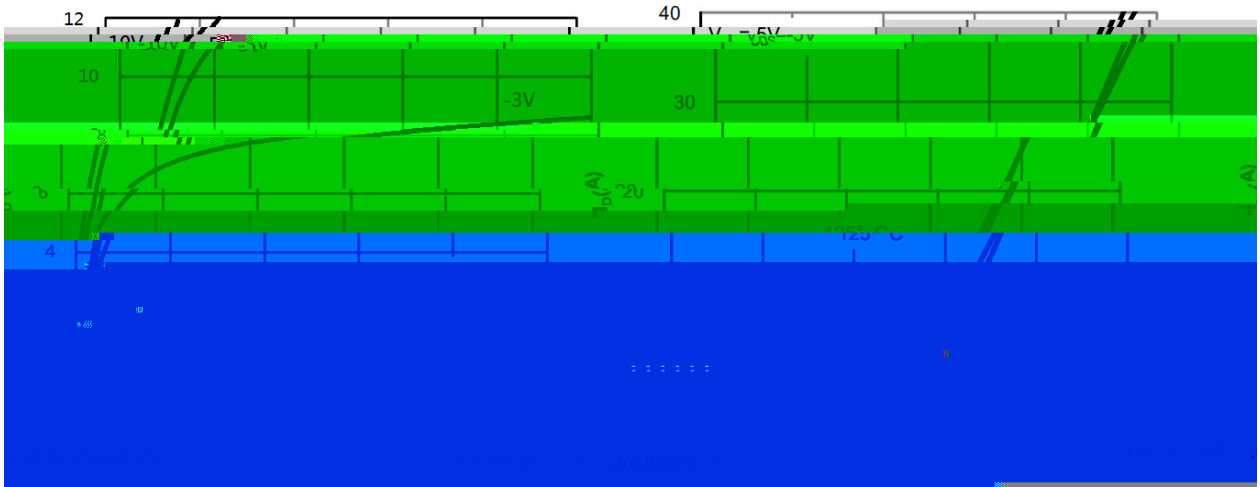
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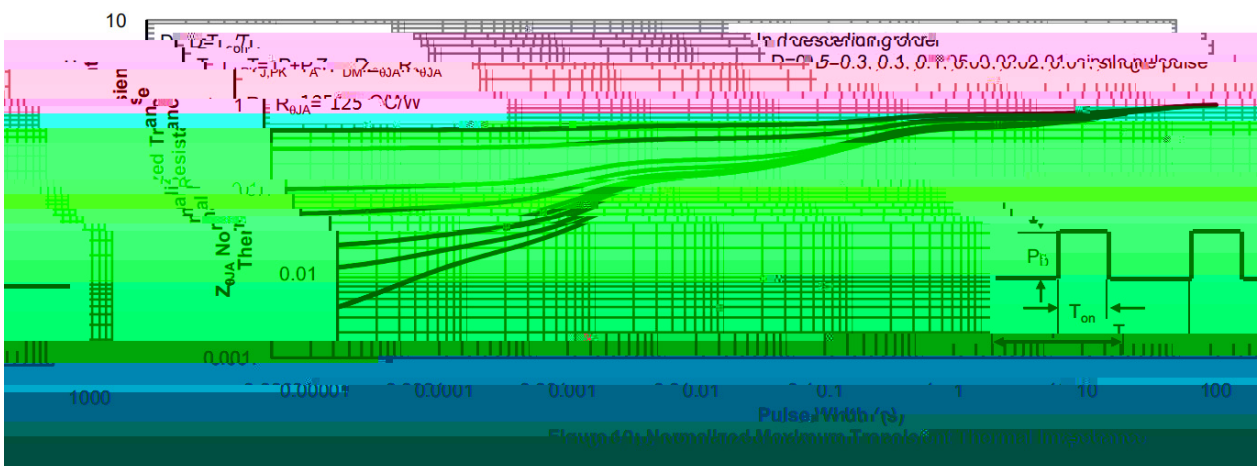
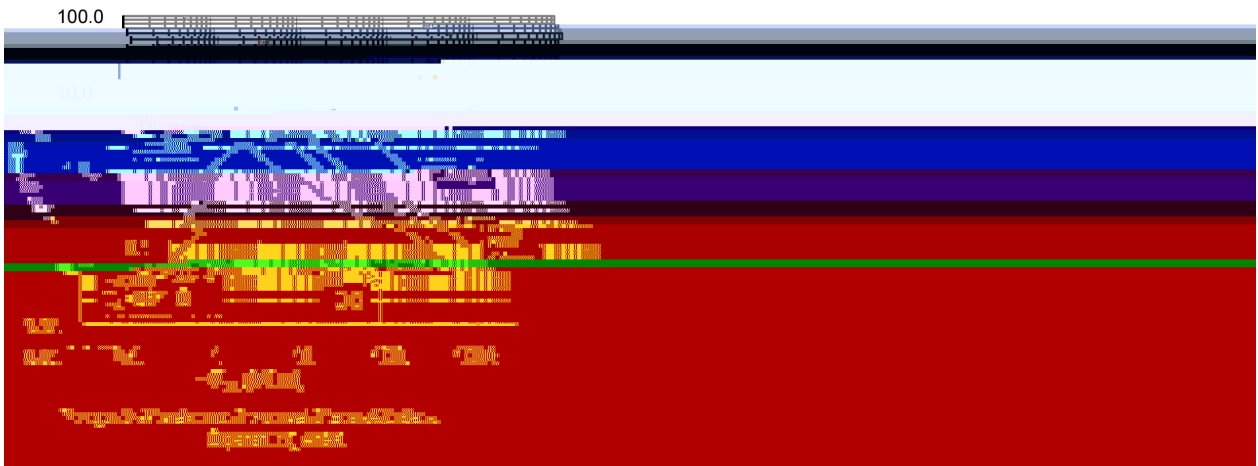
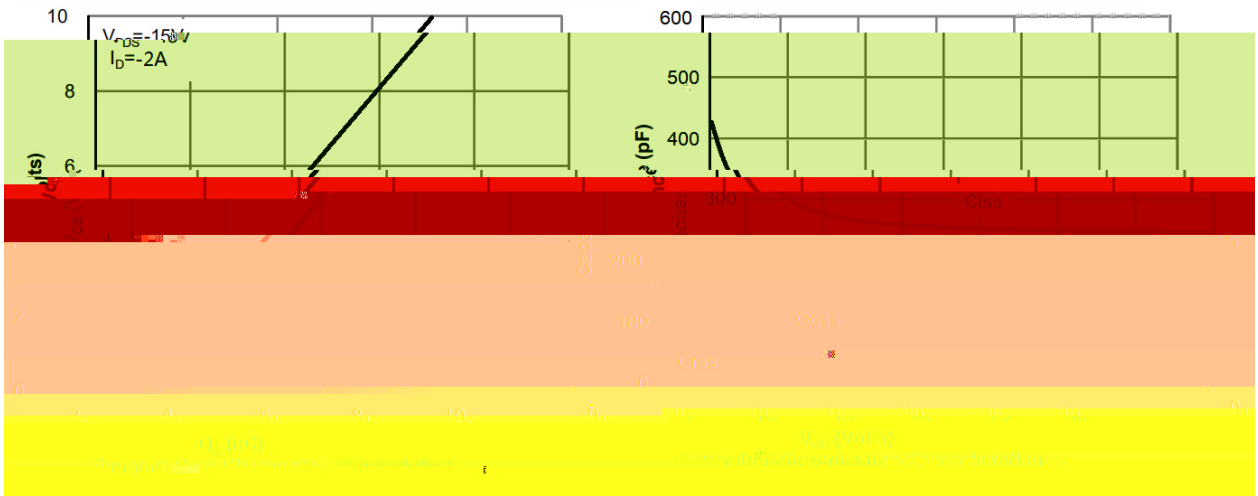
DATA SHEET

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS}=0V$ $I_D=-250\mu A$	-30	-31.5		V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$ $I_D=-250\mu A$	-0.5	-0.85	-2.0	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=-10V$ $I_D=-2 A$		75	95	m

P- / P-CHANNEL Electrical Characteristic Curve



P- / P-CHANNEL Electrical Characteristic Curve



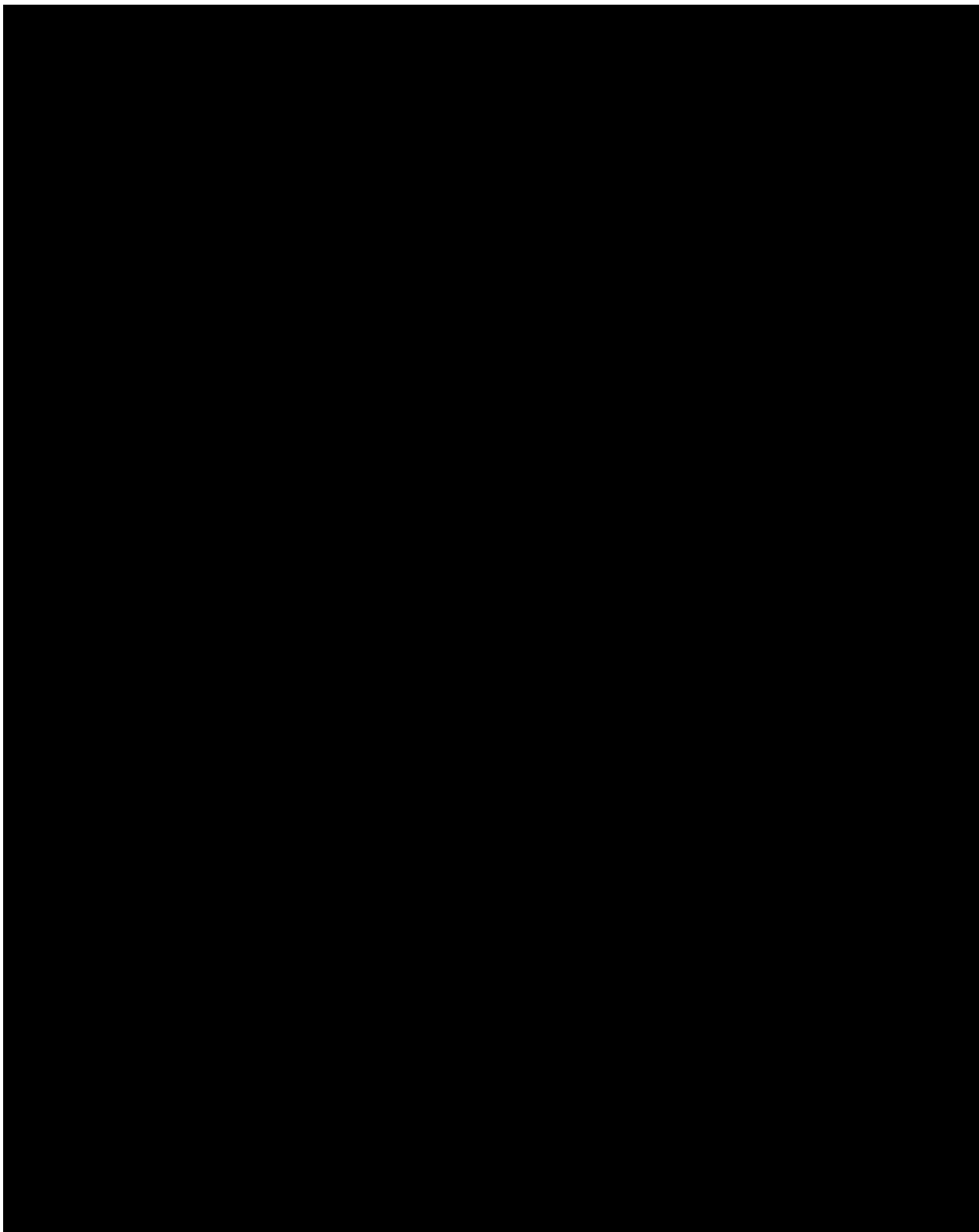
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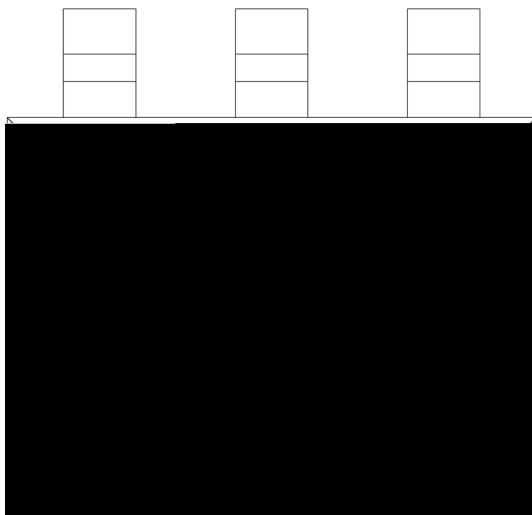


DATA SHEET

/ Package Dimensions



/ Marking Instructions



B03:

H

****:

Note:

B03 Product Type Code

H Company 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