

BRCs080C03YA

Rev.A Sep.-2023

PDFN * × * \$/L

Complementary Enhancement MOSFET in a PDFN3×3-8L Plastic Package.

N-channel

$V_{DS}(V)=30V$ $I_D=37A$

$R_{DS(ON)}@10V<8m$ (Typ.7.5mR)

$R_{DS(ON)}@4.5V<15m$ (Typ.11mR)

HF Product.

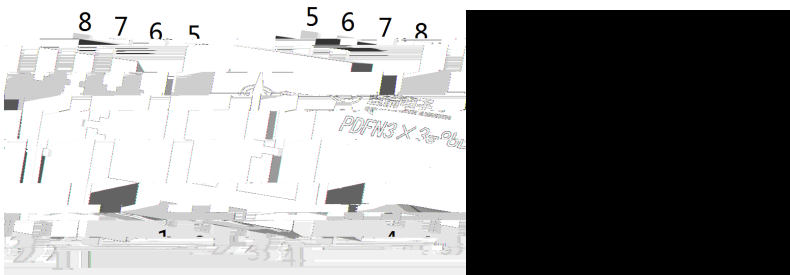
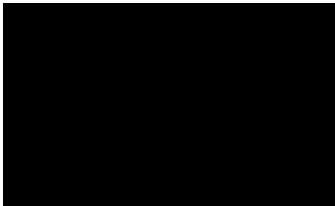
P-channel

$V_{DS}(V)=-30V$ $I_D=-26A$

$R_{DS(ON)}@-10V<13m$ (Typ.12mR)

$R_{DS(ON)}@-4.5V<20m$ (Typ.17mR)

Battery protection switch, Mobile device battery charging and discharging, Load switch.



/ Marking

CS080C03YA

A Sep.-2023



蓝箭电子
BLUE ROCKET ELECTRONICS

DATA SHEET

Parameter	Symbol	Rating		Unit
		N-channe	P-channell	
ain-Source Voltage	V_{DSS}	30	-30	V
te-Source Voltage	V_{GSS}	±20		V
ntinuous Drain Current	$I_D(T_c=25^\circ C)$	37	-26	A
sed Drain Current	I_{DM}	82	-58	A
wer Dissipation	$P_D(T_c=25^\circ C)$	18	15	W

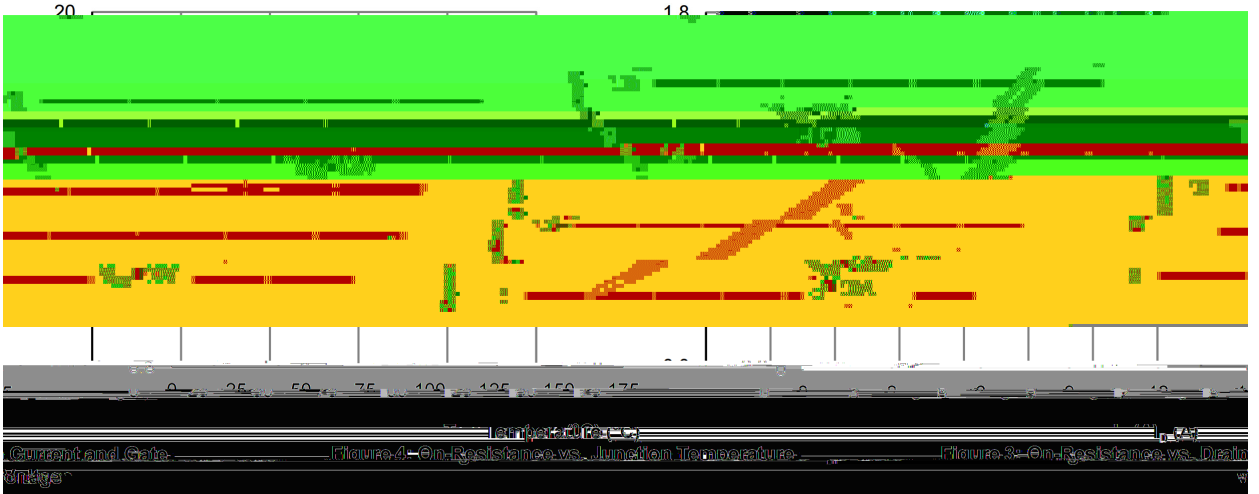
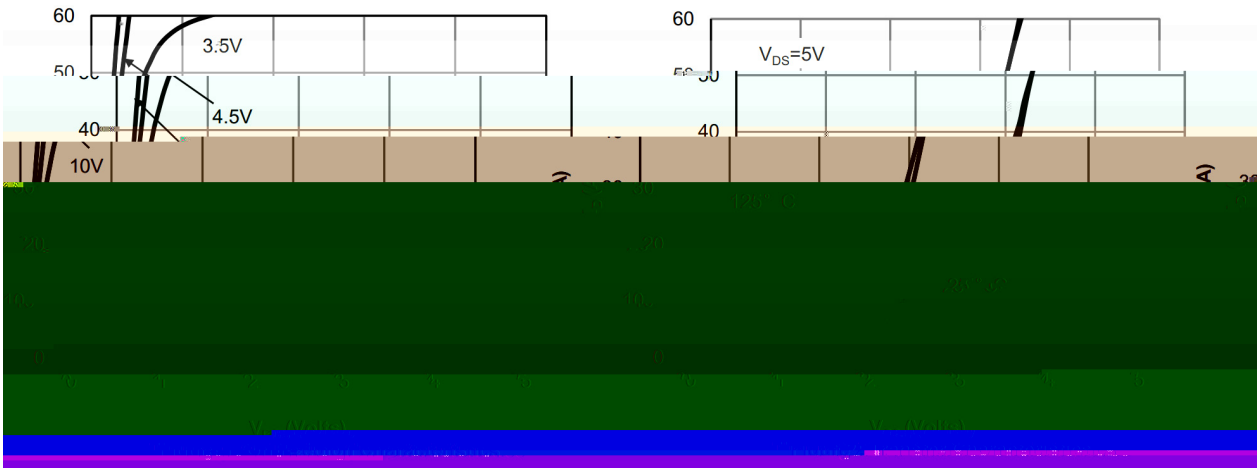
Junction and Storage
Temperature Range

) =6 refBT10.4958 0 .0033 Tw5107\$10.5 27Tp1 4Jc(c)Tj10.4958 0 0 10.4471. =6 refBT T

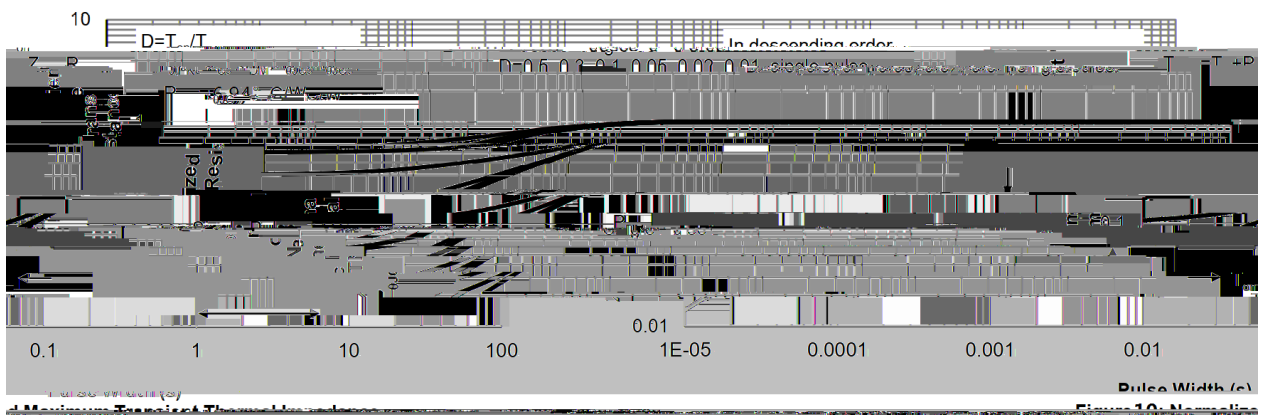
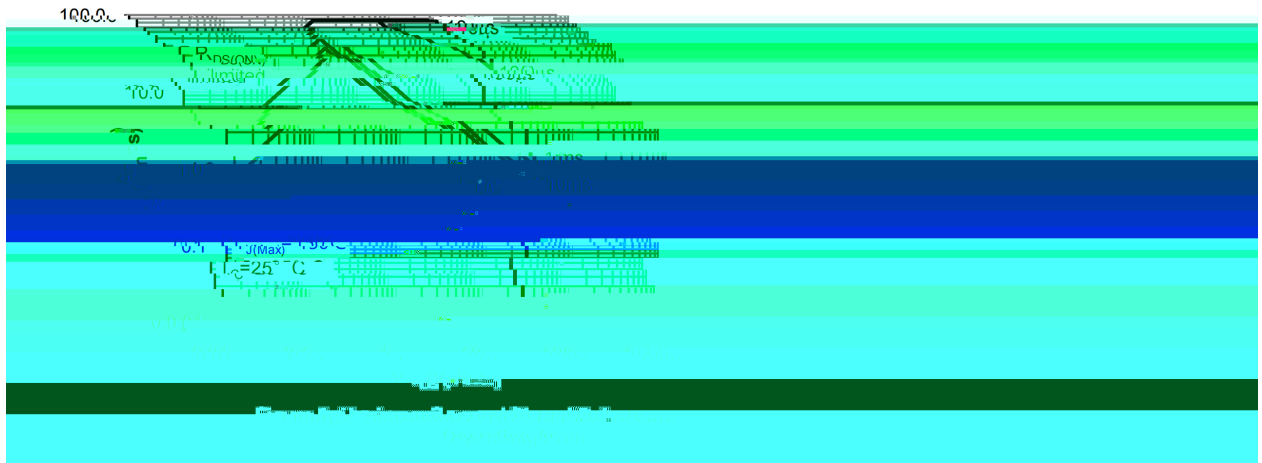
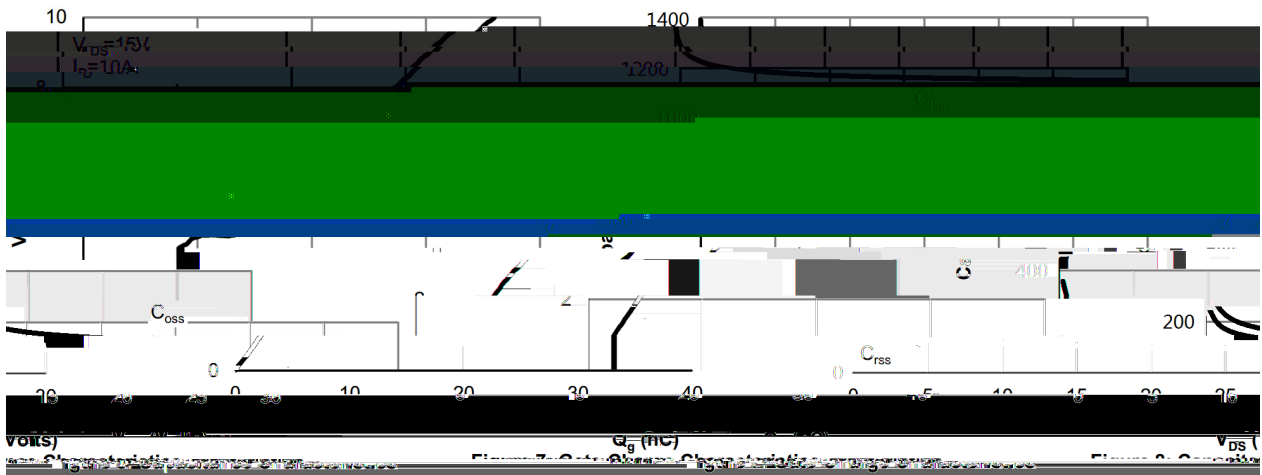
N- /N-CHANNEL Electrical Characteristics(Ta=25)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	$V_{GS}=0V$ $I_D=250\mu A$	30	35.5		V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=30V$ $V_{GS}=0V$			1.0	μA
Gate-Body leakage current	I_{GSS}	$V_{GS}=\pm 20V$ $V_{DS}=0V$			± 100	nA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$ $I_D=250\mu A$	1.0	1.8	2.5	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=10V$ $I_D=10A$		7.5	8	m
		$V_{GS}=4.5V$ $I_D=10A$		11	15	m
Diode Forward Voltage	V_{SD}	$V_{GS}=0V$ $I_S=1.0A$			1.4	V
Input Capacitance	C_{iss}	$V_{DS}=25V$ $V_{GS}=0V$ $f=1.0MHz$		1170		pF
Output Capacitance	C_{oss}			110		pF
Reverse Transfer Capacitance	C_{rss}			100		pF
Gate resistance	R_g	$V_{DS}=0V$ $V_{GS}=0V$ $f=1.0MHz$		3.7		
Total Gate Charge	$Q_{g(10V)}$	$V_{GS}=10V$ $V_{DS}=15V$ $I_D=10A$		40		nC
Total Gate Charge	$Q_{g(4.5V)}$			22		nC
Gate-Source Charge	Q_{gs}			11		nC
Gate-Drain Charge	Q_{gd}			5		nC
Turn-On Delay Time	$t_{d(on)}$	$V_{DS}=15V$ $V_{GS}=10V$ $R_L=0.75$ $R_{GEN}=3$		11		ns
Turn-On Rise Time	t_r			14		ns
Turn-Off Delay Time	$t_{d(off)}$			38		ns
Turn-Off Fall Time	t_f			10		ns

N- / N-CHANNEL Electrical Characteristic Curve



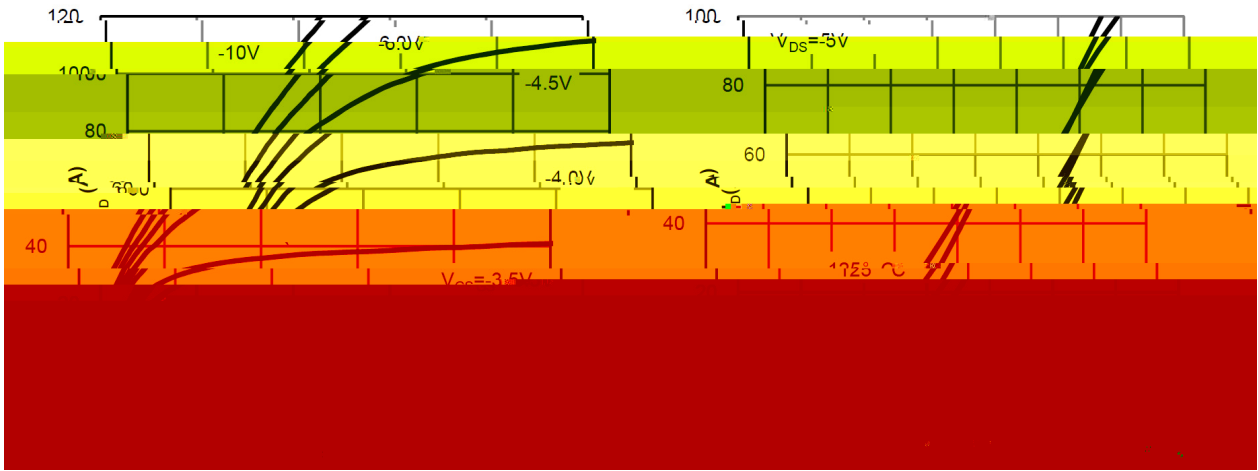
N- / N-CHANNEL Electrical Characteristic Curve



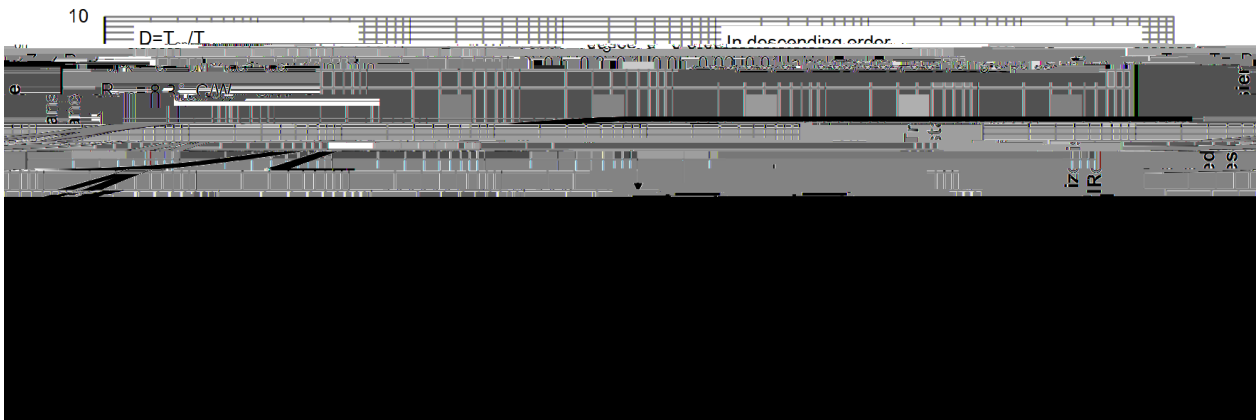
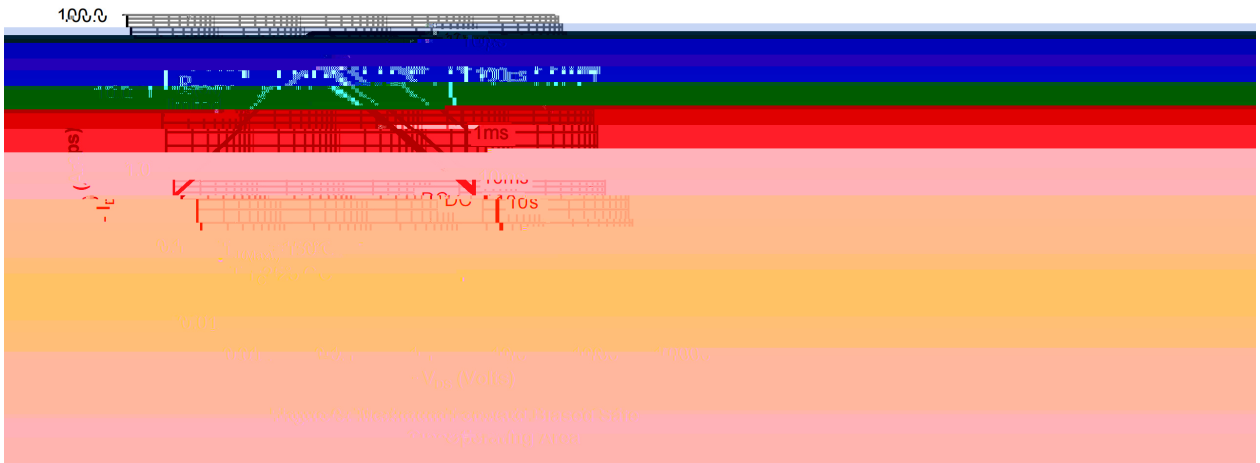
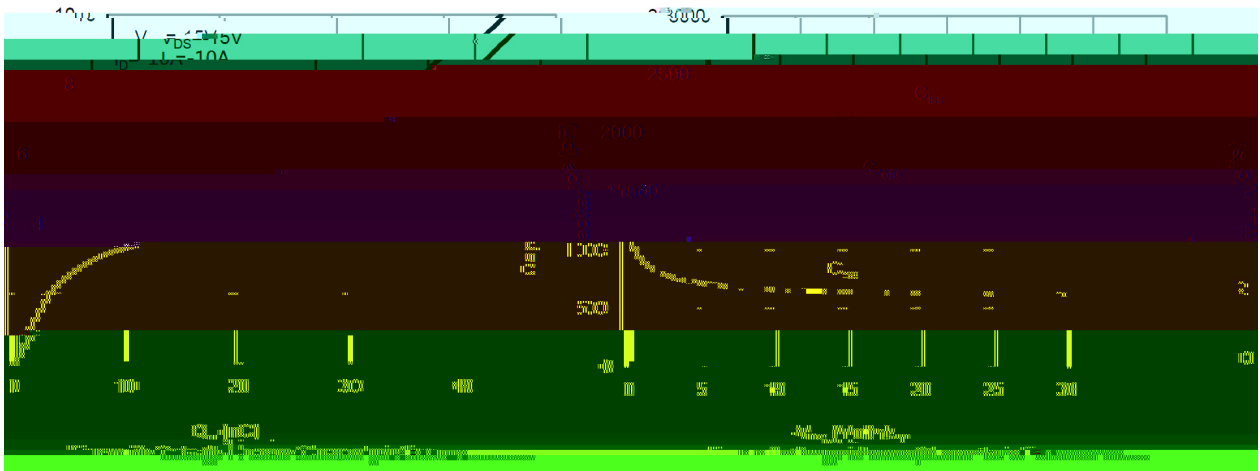
P- /P-CHANNEL Electrical Characteristics(Ta=25

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV _{DSS}	V _{GS} =0V I _D =-250μA	-30			V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =-30 V _{GS} =0V			-1.0	μA
Gate-Body leakage current	I _{GSS}	V _{GS} =±20V V _{DS} =0V			±100	nA
Gate Threshold Voltage	V _{GS(th)}	V _{DS} =V _{GS} I _D =-250μA	-1.0	-1.5	-2.5	V
Static Drain-Source On-Resistance	R _{DS(on)}	V _{GS} =-10V I _D =-10A		12	13	m
		V _{GS} =-4.5V I _D =-10A		17	20	m
Diode Forward Voltage	V _{SD}	V _{GS} =0V I _S =-1.0A			-1.4	V
Input Capacitance	C _{iss}	V _{DS} =-25V V _{GS} =0V f=1.0MHz		2100		pF
Output Capacitance	C _{oss}			1900		pF
Reverse Transfer Capacitance	C _{rss}			640		pF
Gate resistance	R _g	V _{DS} =0V V _{GS} =0V f=1.0MHz		4		
Total Gate Charge	Q _{g(10V)}	V _{GS} =-10V V _{DS} =-15V I _D =-10A		35		nC
Total Gate Charge	Q _{g(4.5V)}			17		nC
Gate-Source Charge	Q _{gs}			5.7		nC
Gate-Drain Charge	Q _{gd}			8.8		nC
Turn-On Delay Time	t _{d(on)}	V _{DS} =-15 V V _{GS} =-10V R _L =1 R _{GEN} =3		11		ns
Turn-On Rise Time	t _r			7.5		ns
Turn-Off Delay Time	t _{d(off)}			43.5		ns
Turn-Off Fall Time	t _f			17.5		ns

P- / P-CHANNEL Electrical Characteristic Curve



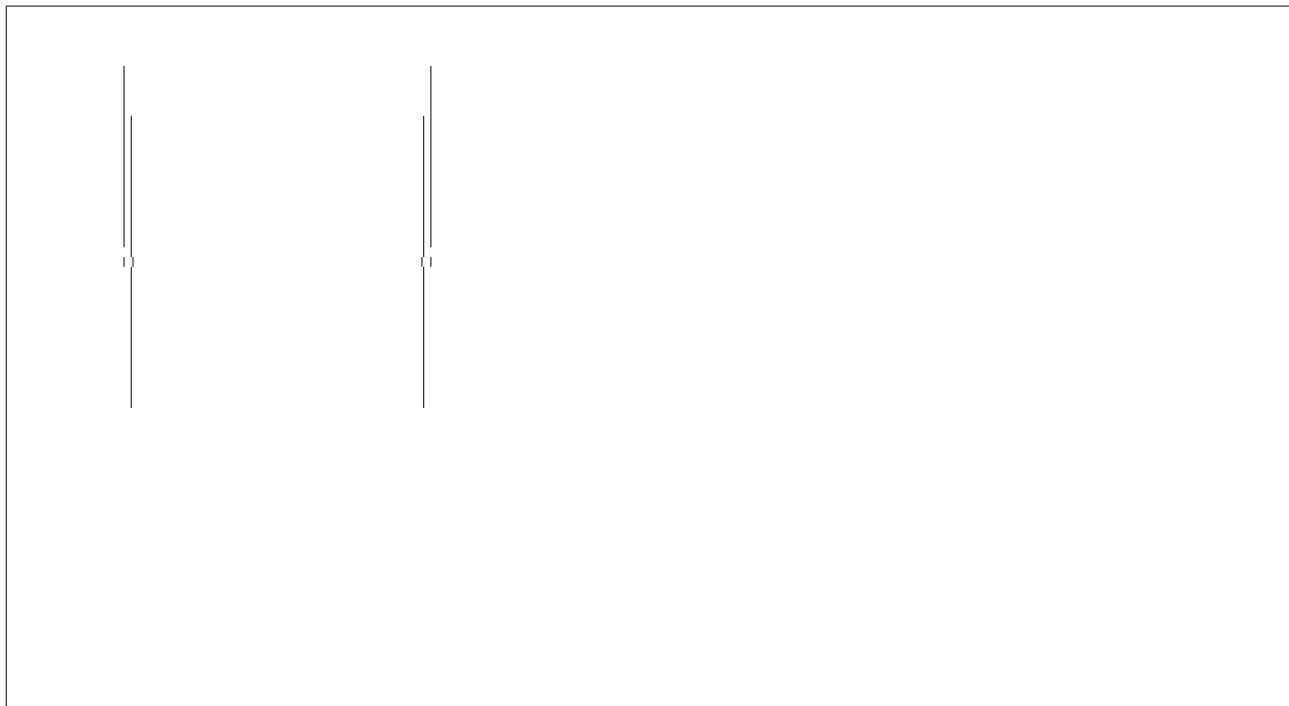
P- P / P-CHANNEL Electrical Characteristic Curve



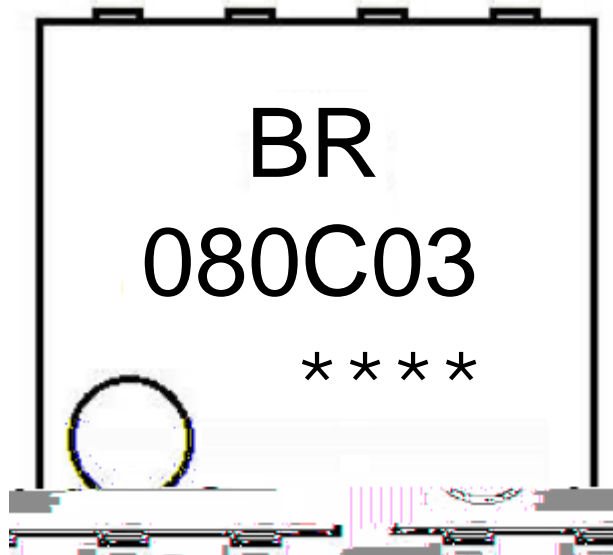
/ Package Dimensions

PDFN3X3-8L

Unit:mm



/ Marking Instructions



BR

080C03

Note:

BR: Company Code

080C03: 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;
- 2 245±5 5±0.5sec;
- 3 2 10 /sec.

- 1.Preheating:150~180 , Time:60~90sec.
- 2.Peak Temp.:245±5 , Duration:5±0.5sec.
- 3. Cooling Speed: 2~10 /sec.