

/ Descriptions

PDFN5×6 N

N-Channel MOSFET in a PDFN5×6 Plastic Package .

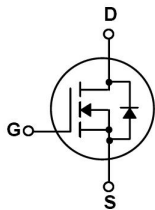
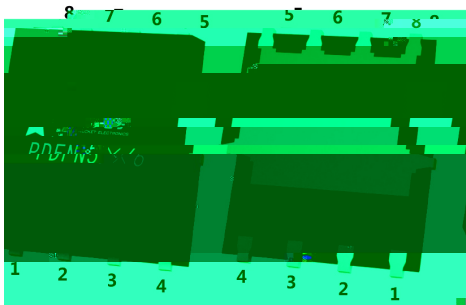
/ Features $V_{DS}(V)=30\text{ V}$ $I_D=212\text{ A}$ $R_{DS(ON)}@10V\leq 1.3\text{ m}\Omega$ (Typ.1.2m Ω) $R_{DS(ON)}@4.5V\leq 2.5\text{ m}\Omega$ (Typ.1.8m Ω)

HF Product.

/ Applications

LED

This device is ideal for boost converters and synchronous rectifiers for consumer, telecom, industrial power supplies and LED backlighting.

/ Equivalent Circuit**/ Pinning**

PIN1 2 3 S PIN4 G PIN5 6 7 8 D

/ Marking

See Marking Instructions.


/ Absolute Maximum Ratings($T_c=25$)

Parameter		Symbol	Rating	Unit
Drain-Source Voltage		V_{DS}	30	V
Drain Current		I_D	212	A
Drain Current - Pulsed		I_{DM}	345	A
Gate-Source Voltage		V_{GS}	± 20	V
Single Pulsed Avalanche Energy		E_{AS}	703	mJ
Avalanche Current		I_{AS}	37.5	A
Power Dissipation		P_D	100	W
Operating and Storage Temperature Range		T_J, T_{stg}	-55 to 150	
Junction-to-Ambient	$t \leq 10$	$R_{\theta JA}$	20	/W
Junction-to-Ambient	Steady-State		60	
Junction-to-Case	Steady-State	$R_{\theta JC}$	1.25	

/ Electrical Characteristics($T_c=25$)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	$V_{GS}=0V$ $I_D=250\mu A$	30			V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=30V$ $V_{GS}=0V$			1	μA
Gate-Body Leakage Current Forward	I_{GSS}	$V_{GS}=\pm 20V$ $V_{DS}=0V$			± 0.1	μA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$ $I_D=250\mu A$	1.1		2.2	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=10V$ $I_D=30A$		1.2	1.3	m Ω
		$V_{GS}=4.5V$ $I_D=20A$		1.8	2.5	m Ω
Drain-Source Diode Forward Voltage	V_{SD}	$V_{GS}=0V$ $I_S=1A$			1.2	V
Reverse Recovery Time	t_{rr}	$V_{DS}=15V, I_D=20A$ $dI_{SD}/dt = 100 A/\mu s$		38.2		ns
Reverse Recovery Charge	Q_{rr}			37.7		nC
Input Capacitance	C_{iss}	$V_{DS}=25V$ $V_{GS}=0V$ $f=1.0MHz$		3040		pF
Output Capacitance	C_{oss}			1110		
Reverse Transfer Capacitance	C_{rss}			40		
Gate resistance	R_g	$V_{GS}=0V$ $V_{DS}=0V$ $f=1MHz$		3.3		Ω

BRCS012N03SZC

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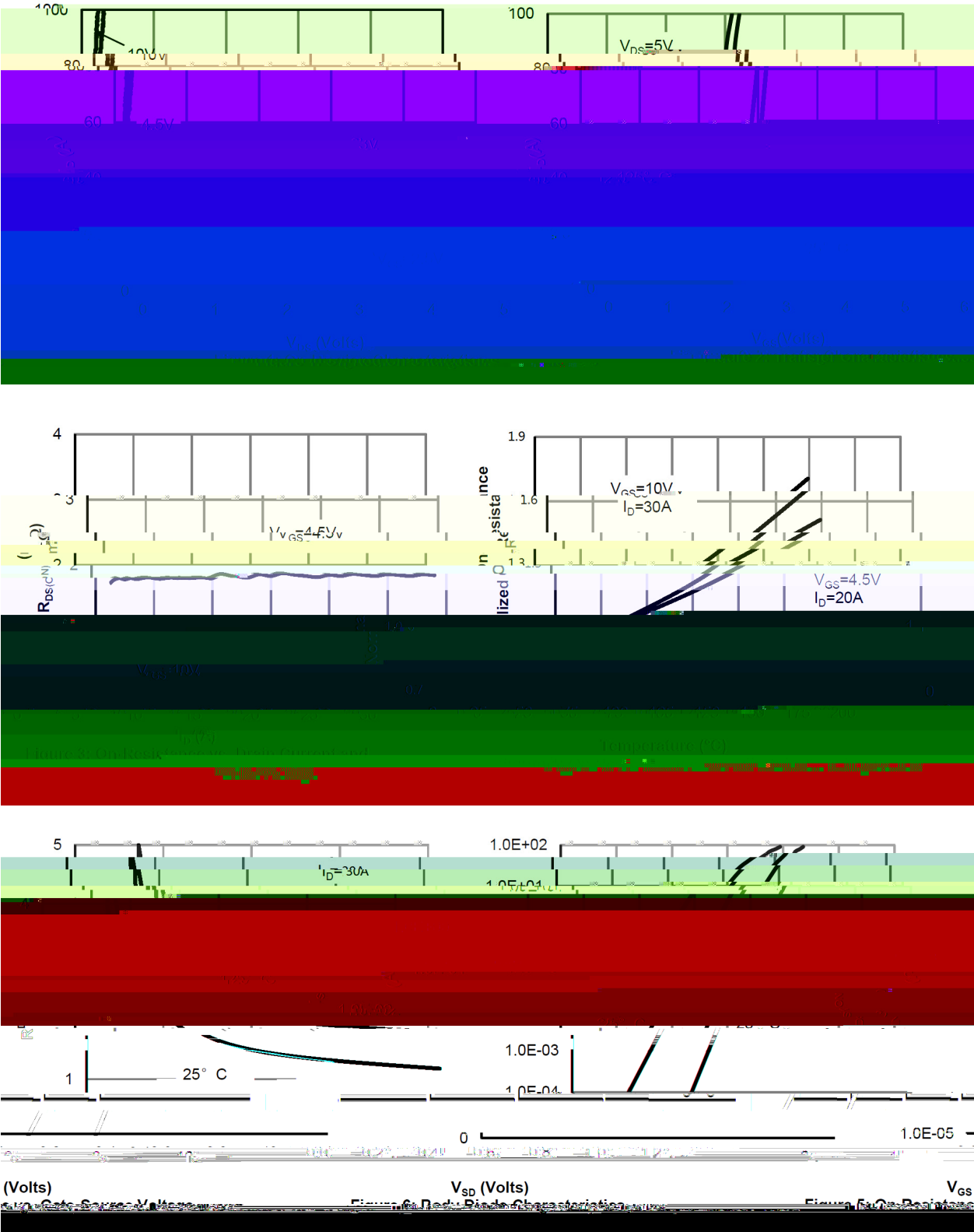


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Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
total Gate Charge	$Q_{g(10V)}$	$V_{GS}=10V$ $V_{DS}=15V$ $I_D=20A$		43.5		nC
total Gate Charge	$Q_{g(4.5V)}$			19.4		
Gate Source Charge	Q_{gs}			5.5		
Gate Drain Charge	Q_{gd}			8.1		

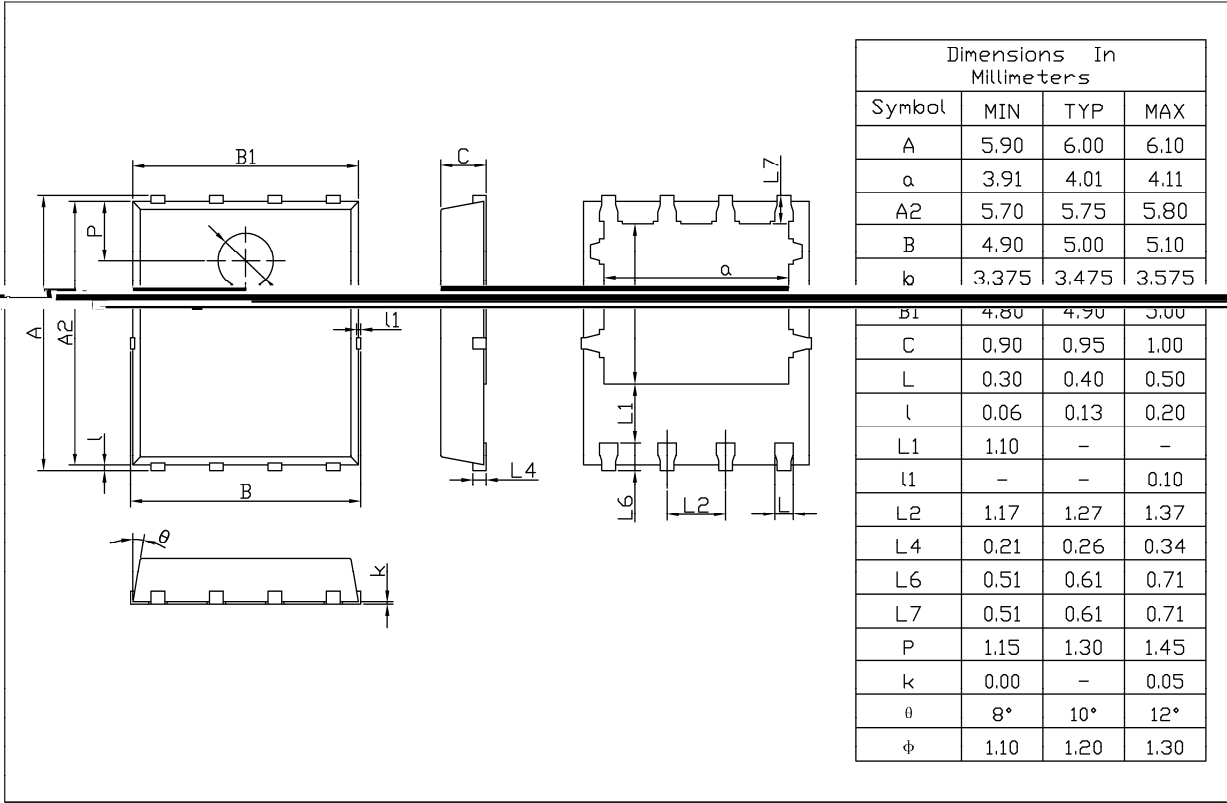
/ Electrical Characteristic Curve



/ Package Dimensions

PDFN5 X6

Unit:mm



Rev.02 202510

/ Marking Instructions



BR

012N03S

Note

BR

Company Code

012N03S

Product Type

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.

/ Resistance to Soldering Heat Test Conditions

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

/ Packaging SPEC.

/ REEL-