SOP-8 N

N-Channel Enhancement Mode Field Effect Transistor in a SOP-8 Plastic Package.

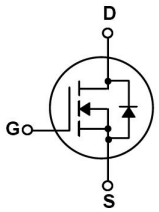
V_{DS} = 40V I_D =15A (V_{GS} = ± 20V)

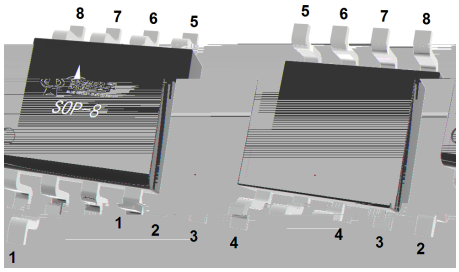
$R_{DS(ON)}$@10V ≤ 8m (Typ. 6.4m)

$R_{DS(ON)}$@4.5V ≤ 13m (Typ. 10m)

HF Product.

Power Management in Notebook computer, Portable Equipment and Battery powered systems.



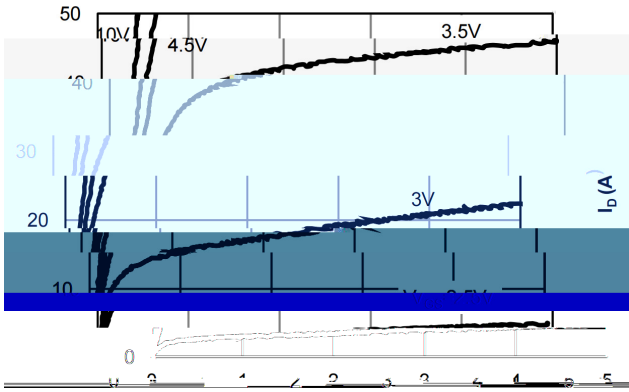


PIN1	S	PIN 2	S	PIN 3	S	PIN 4	G
PIN 5	D	PIN 6	D	PIN 7	D	PIN 8	D

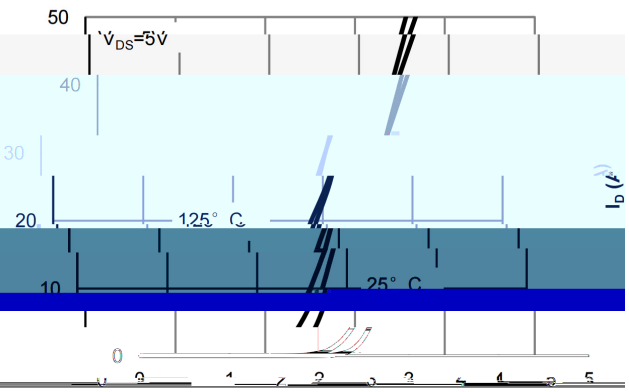
See Marking Instructions.

Parameter		Symbol	Rating	Unit
Drain-Source Voltage		V_{DSS}	40	V
Drain Current		I_D(Tc=25)	15	A
Drain Current - Pulsed		I_{DM}	68	A
Gate-Source Voltage		V_{GSS}	±20	V
Single Pulsed Avalanche Energy		E_{AS}	67.6	mJ
Avalanche Current		I_{AS}	13	A
Power Dissipation		P_D(Tc=25)	3.1	W
Operating and Storage Temperature Range		T_J,T_{stg}	-55 to 150	℃
Junction-to-Ambient	t ≤ 10	R_{JA}	40	/W
Junction-to-Ambient	Steady-State		75	
Junction-to-Lead	Steady-State	R_{JL}	24	

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	V_{GS}=0V I_D=250 A	40	47		V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=40V V_{GS}=0V			1	A
Gate-Body Leakage Current Forward	I_{GSS}	V_{GS}=±20V V_{DS}=0V			±0.1	A
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS} I_D=250 A	1.0	1.6	2.5	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	V_{GS}=10V I_D=20A		6.4	8	m
		V_{GS}=4.5V I_D=10A		10	13	m
Drain-Source Diode Forward Voltage	V_{SD}	V_{GS}=0V I_S=1A			1.2	V
Input Capacitance	C_{iss}	V_{DS}=25V V_{GS}=0V f=1.0MHz		1890		pF
Output Capacitance	C_{oss}			135		
Reverse Transfer Capacitance	C_{rss}			120		
Gate resistance	R_g	V_{GS}=0V V_{DS}=0V f=1MHz		1.9		
Total Gate Charge	Q_g	V_{GS}=10V V_{DS}=20V I_D=15A		40.7		nC
Gate Source Charge	Q_{gs}			3.1		
Gate Drain Charge	Q_{gd}			4.5		
Turn-On Delay Time	$t_{d(on)}$	V_{GS}=10V V_{DS}=20V R_L=1.18 R_{GEN}=3.0		10		ns
Turn-On Rise Time	t_r			13.9		
Turn-Off Delay Time	$t_{d(off)}$			40.5		
Turn-Off Fall Time	t_f			9		
Body Diode Reverse Recovery Time	t_{rr}	V_{DD}=20V I_F=10A di/dt=200A/ms		16.3		ns
Body Diode Reverse Recovery Charge	Q_{rr}			17		nC



V_{DS} (Volts)
Figure 1: On-Region Characteristics



V_{GS} (Volts)
Figure 2: Transfer Characteristics

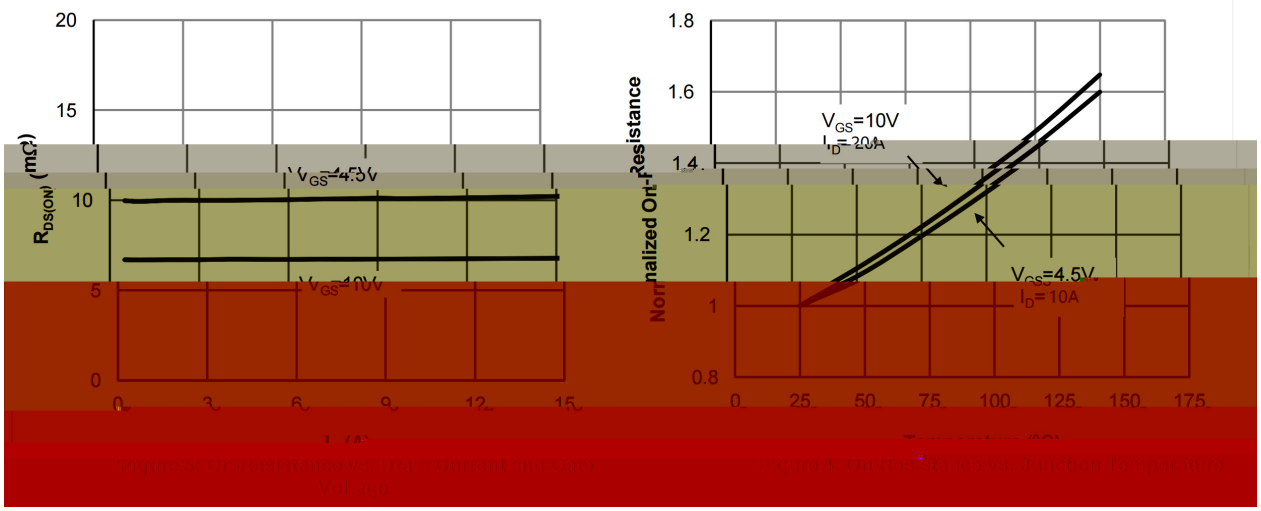


Figure 3: On-Resistance vs. Drain Current and Gate Voltage

Figure 4: On-Resistance vs. Junction Temperature

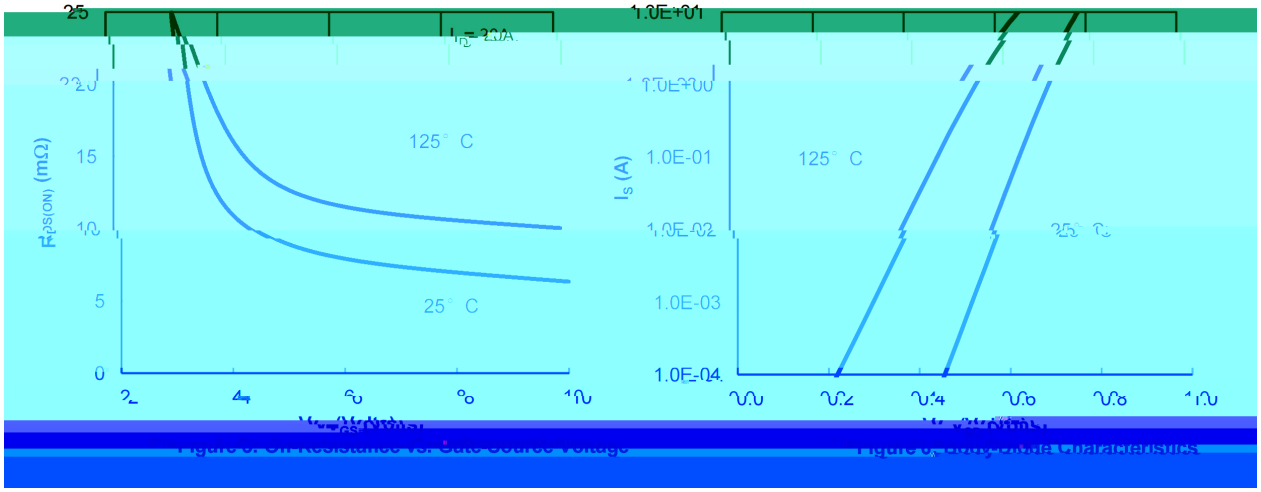


Figure 5: On-Resistance vs. Gate-Source Voltage

Figure 6: Body-Diode Characteristics

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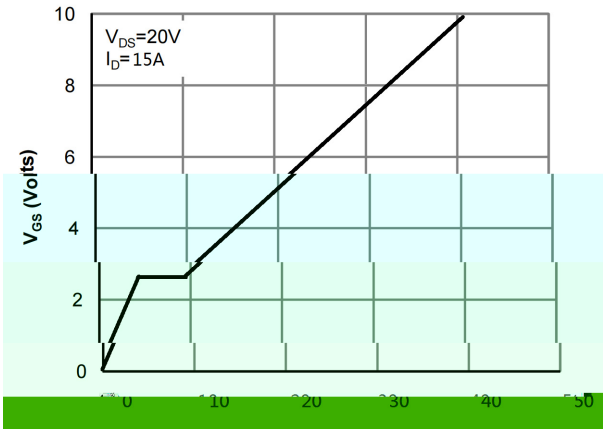


Figure 7: Gate-Charge Characteristics

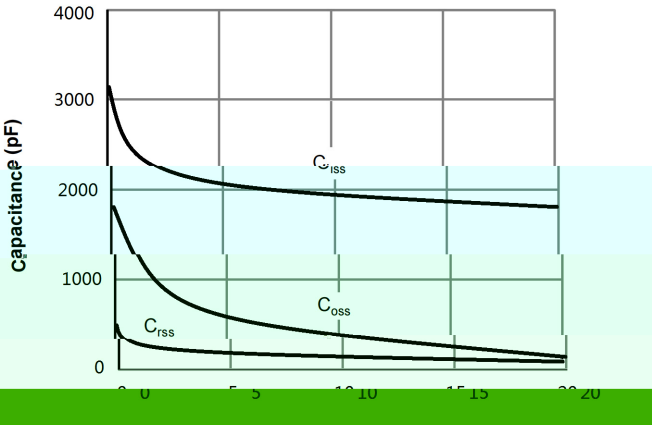


Figure 8: Capacitance Characteristics

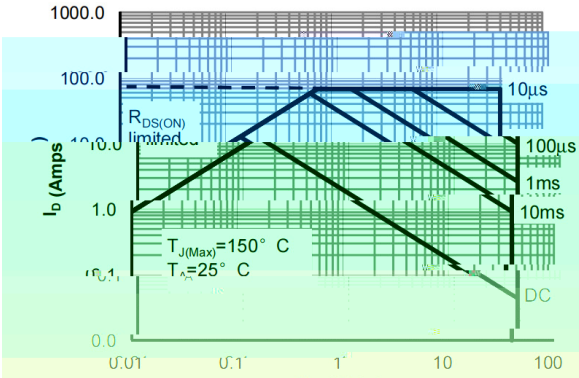


Figure 9: Maximum Forward Biased Safe Operating Area

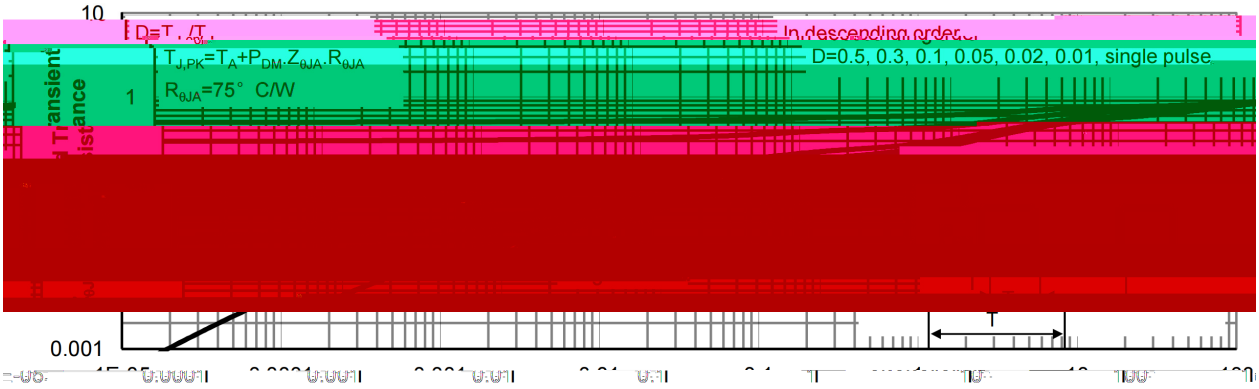
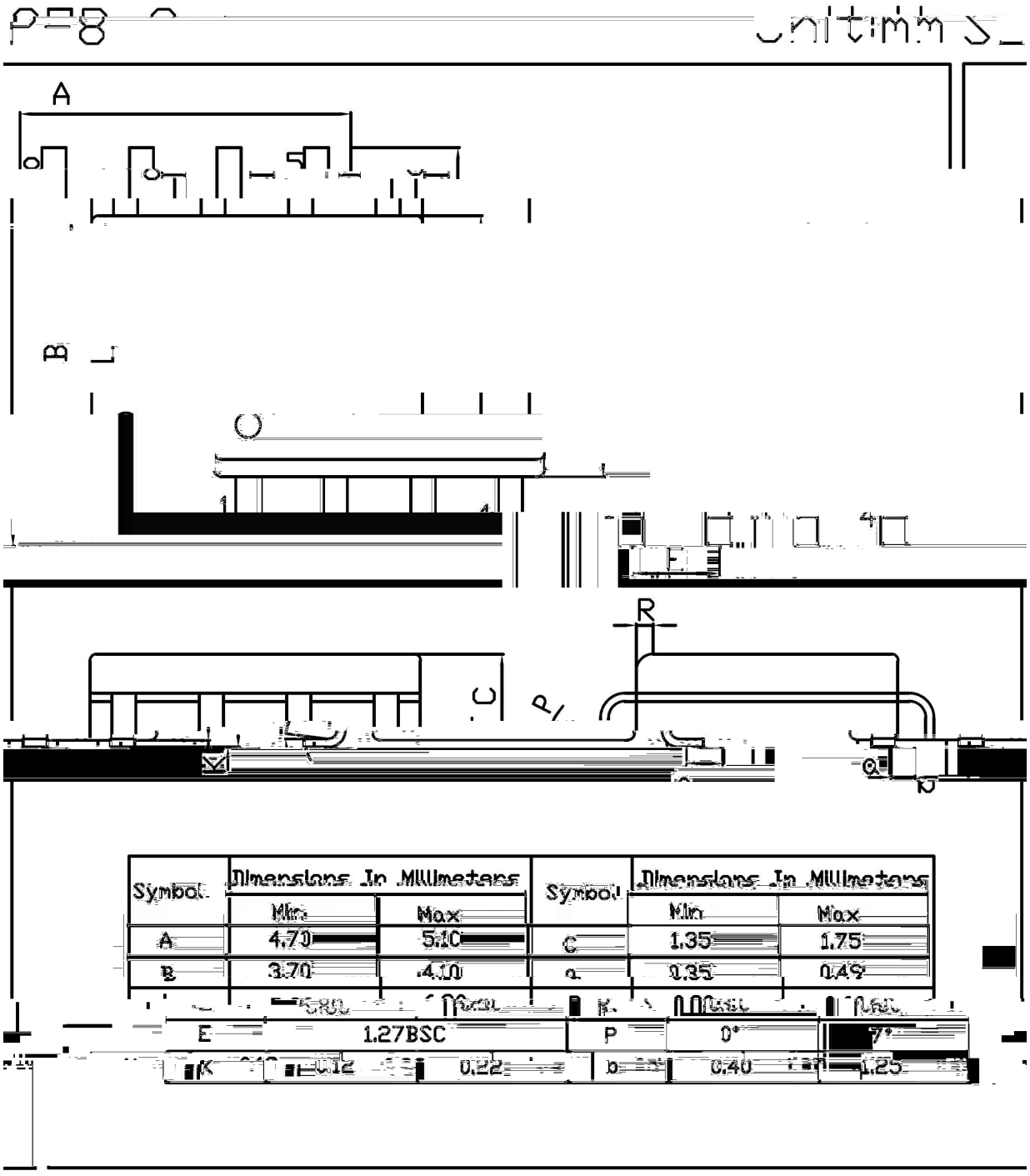
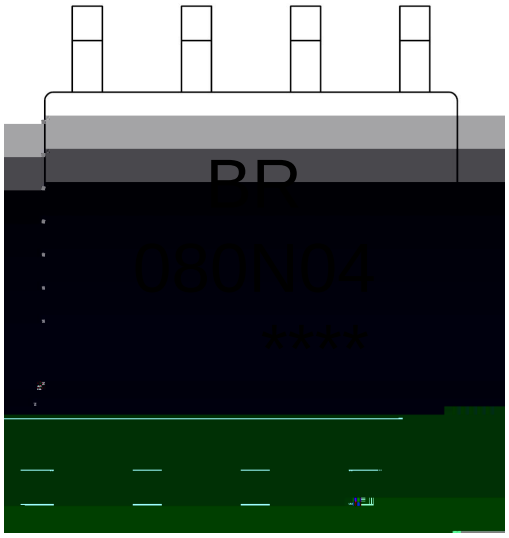


Figure 10: Normalized Maximum Transient Thermal Impedance



Symbol	Dimensions In Millimeters		Symbol	Dimensions In Millimeters	
	Min	Max		Min	Max
A	4.70	5.10	c	1.35	1.75
B	3.70	4.10	a	0.35	0.49
E	1.27BSC		P	0°	7°
K	0.12	0.22	b	0.40	1.25



BR

080N04

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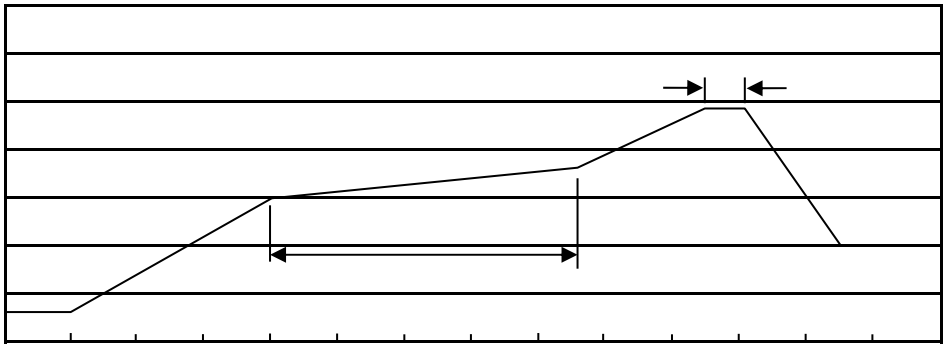
Note:

BR:	Company Code
080N04:	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 mm³)
	Units/Reel /	Reels/Inner Box /	Units/Inner Box /	Inner Boxes/Outer Box /	Units/Outer Box /	Reel	Inner Box	Outer Box
SOP/ESOP-8	4,000	2	8,000	6	48,000	13 ×12	360×360×50	380×335×366

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