SOP-8 N

N-Channel Enhancement Mode Field Effect Transistor in a SOP-

极限参数 / Absolute Maximum Ratings(Ta=25℃)

Parameter		Symbol	Rating		Unit
			10Sec	Steady State	
Drain-Source Voltage		V_{DSS}	40		V
Gate-Source Voltage		V_{GS}	±20		V
Drain Current –Continuous [A]	T_A=25℃	I_D	13.5	10	A
	T_A=70℃		10.8	8.0	A
Pulsed Drain Current [B]		I_{DM}	120		A
Avalanche Current [G]		I_{AR}	23		A
Repetitive avalanche energy L=0.3mH [G]		E_{AR}	79		mJ
Power Dissipation for Single Operation [A]	T_A=25℃	P_D	3.1	1.7	W
	T_A=70℃		2.0	1.1	
Thermal Resistance, Junction-to-Ambient [A]	t≤10S	$R_{\theta JA}$	40		℃/ W
	Steady State	$R_{\theta JA}$	75		℃/ W
Thermal Resistance, Junction-to Lead [A] (Steady State)		$R_{\theta Jl}$	24		℃/ W
Operating and Junction Temperature Range		T_j T_{stg}	-55~150		℃

电性能参数 / Electrical Characteristics(Ta=25℃)

Parameter	Symbol	Test Conditions		Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	V_{GS}=0V	I_D=250μA	40			V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=40V	V_{GS}=0V			1.0	μA
		V_{DS}=40V T_J=55°C	V_{GS}=0V			5.0	μA
Gate-Body Leakage Current Forward	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	1.4	2.0	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	V_{GS}=10V	I_D=10A		8.2	10	mΩ
		V_{GS}=10 V T_J=125°C	I_D=10A		12.5	16	
		V_{GS}=4.5 V	I_D=8.0A		10	12.5	
Diode Forward Voltage	V_{SD}	I_S=1A	V_{GS}=0V		0.72	1.0	V
Forward Transconductance	g_{FS}	V_{DS}=5V	I_D=5A		10		S

电性能参数 / Electrical Characteristics(Ta=25℃)

参数 Parameter	符号 Symbol	测试条件 Test Conditions	最小值 Min	典型值 Typ	最大值 Max	单位 Unit
Input Capacitance	C_{iss}	V_{DS}=15V V_{GS}=0V f =1.0MHz		1500	1950	pF
Output Capacitance	C_{oss}			215		
Reverse Transfer Capacitance	C_{rss}			135		
Total Gate Charge(10V)	Q_g	V_{DS}=20V I_D=10A V_{GS}=10V		27.2	37	nC
Total Gate Charge(4.5V)				13.6	18	
Gate-Source Charge	Q_{gs}			4.5		
Gate-Drain Charge	Q_{gd}			6.4		
Gate resistance	R_g	V_{GS}=0V V_{DS}=0V f=1MHz	2.0	3.5	5.0	Ω
Turn-On Delay Time	$t_{d(on)}$	V_{DS}=20V R_L=2Ω V_{GS}=10V R_{GEN}=3Ω		6.4		ns
Turn-On Rise Time	t_r			17.2		
Turn-Off Delay Time	$t_{d(off)}$			29.6		
Turn-Off Fall Time	t_f			16.8		
Continuous Drain-Source Diode Forward Current	I_S				2.5	A
Body Diode Reverse Recovery Time	t_{rr}	I_F=10A dI/dt=100A/μs		30	40	ns
Body Diode Reverse Recovery Charge	Q_{rr}			19		nC

Notes:

A:The value of $R_{\theta JA}$ is measured with the device mounted on 1in2 FR-4 board with 2oz. Copper, in a still air environment with T_A= 25°C. The value in any given application depends on the user's specific board design.

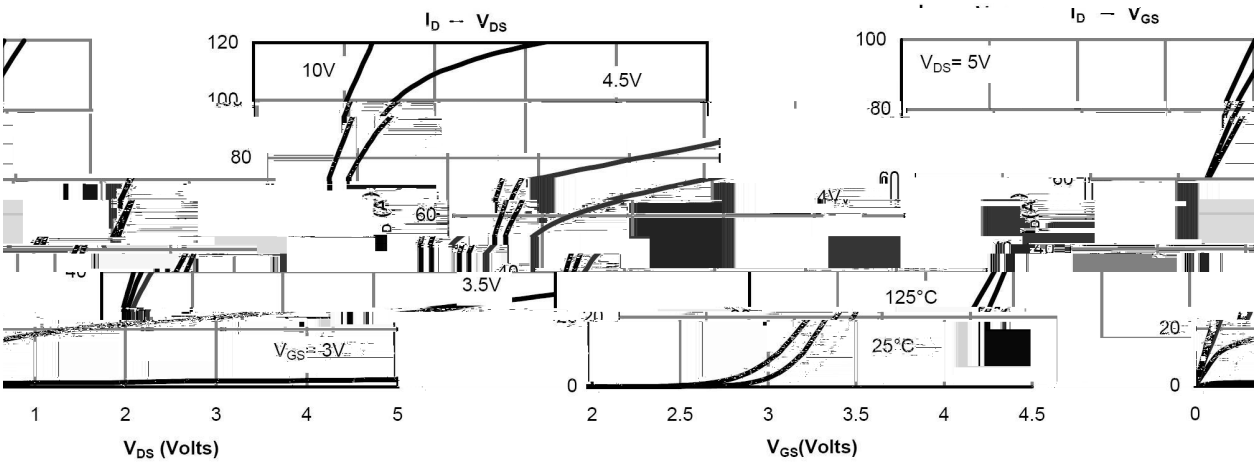
B: Repetitive rating, pulse width limited by junction temperature.

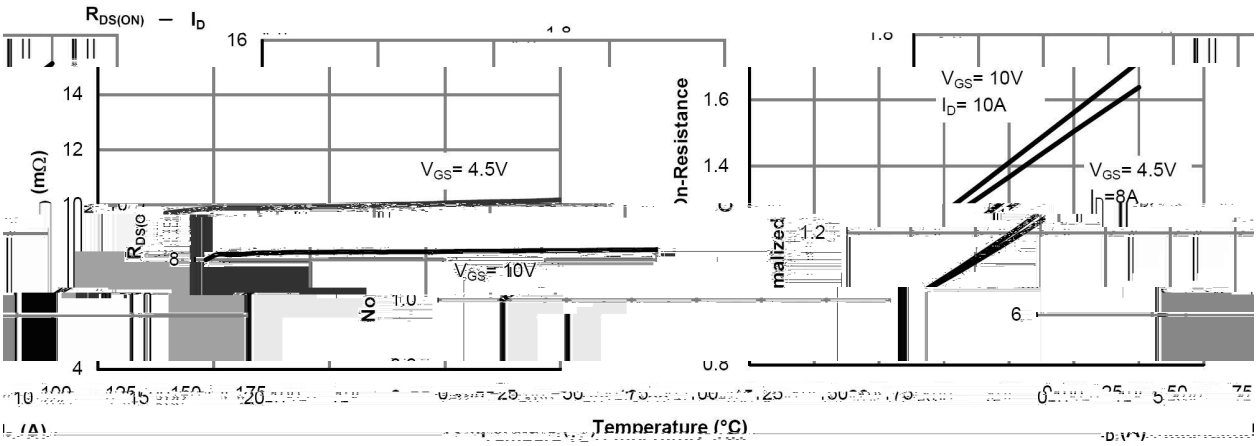
C. The $R_{\theta JA}$ is the sum of the thermal impedance from junction to lead $R_{\theta JL}$ and lead to ambient.

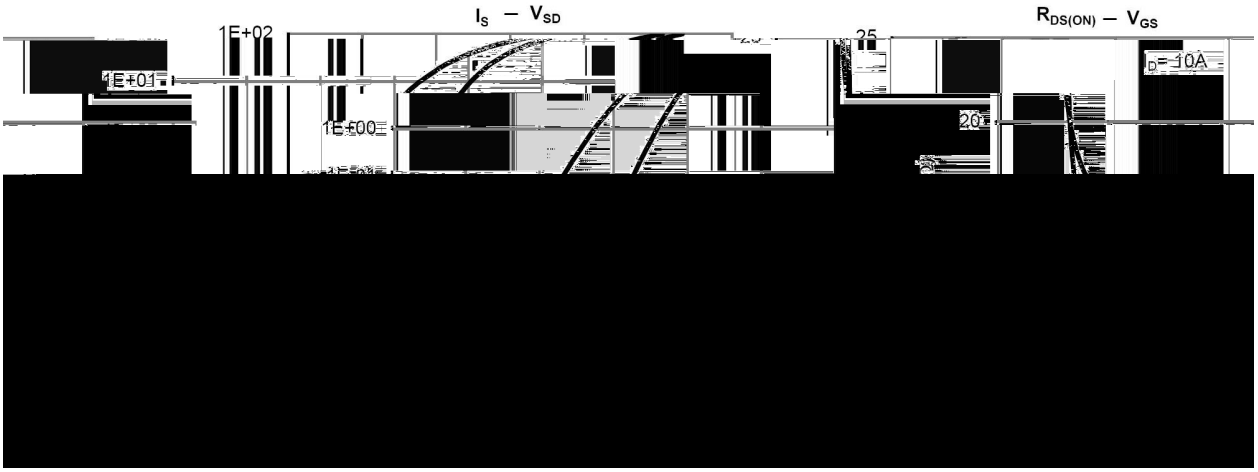
D. The static characteristics in Figures 1 to 6 are obtained using t ≤ 300μs pulses, duty cycle 0.5% max.

E. These tests are performed with the device mounted on 1 in2 FR-

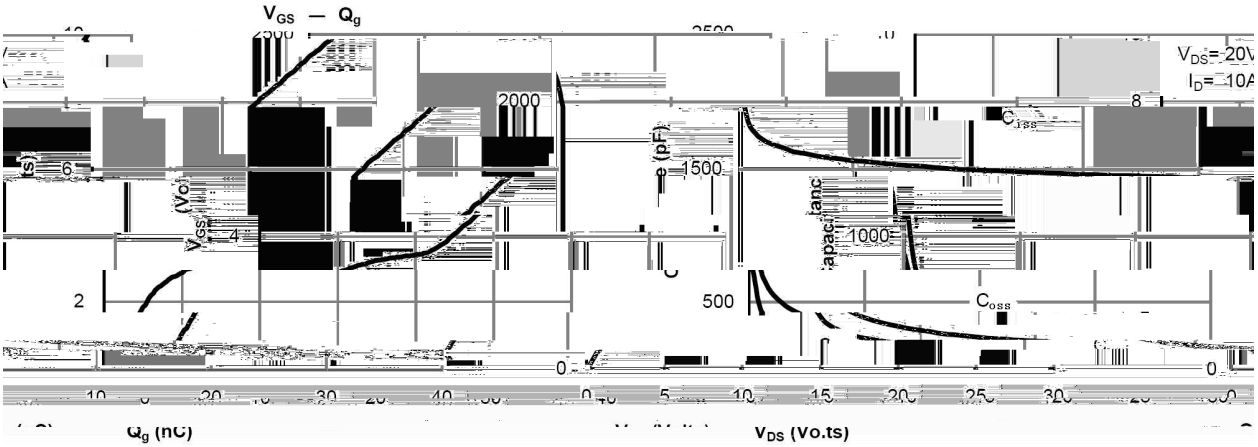
电参数曲线图 / Electrical Characteristic Curve





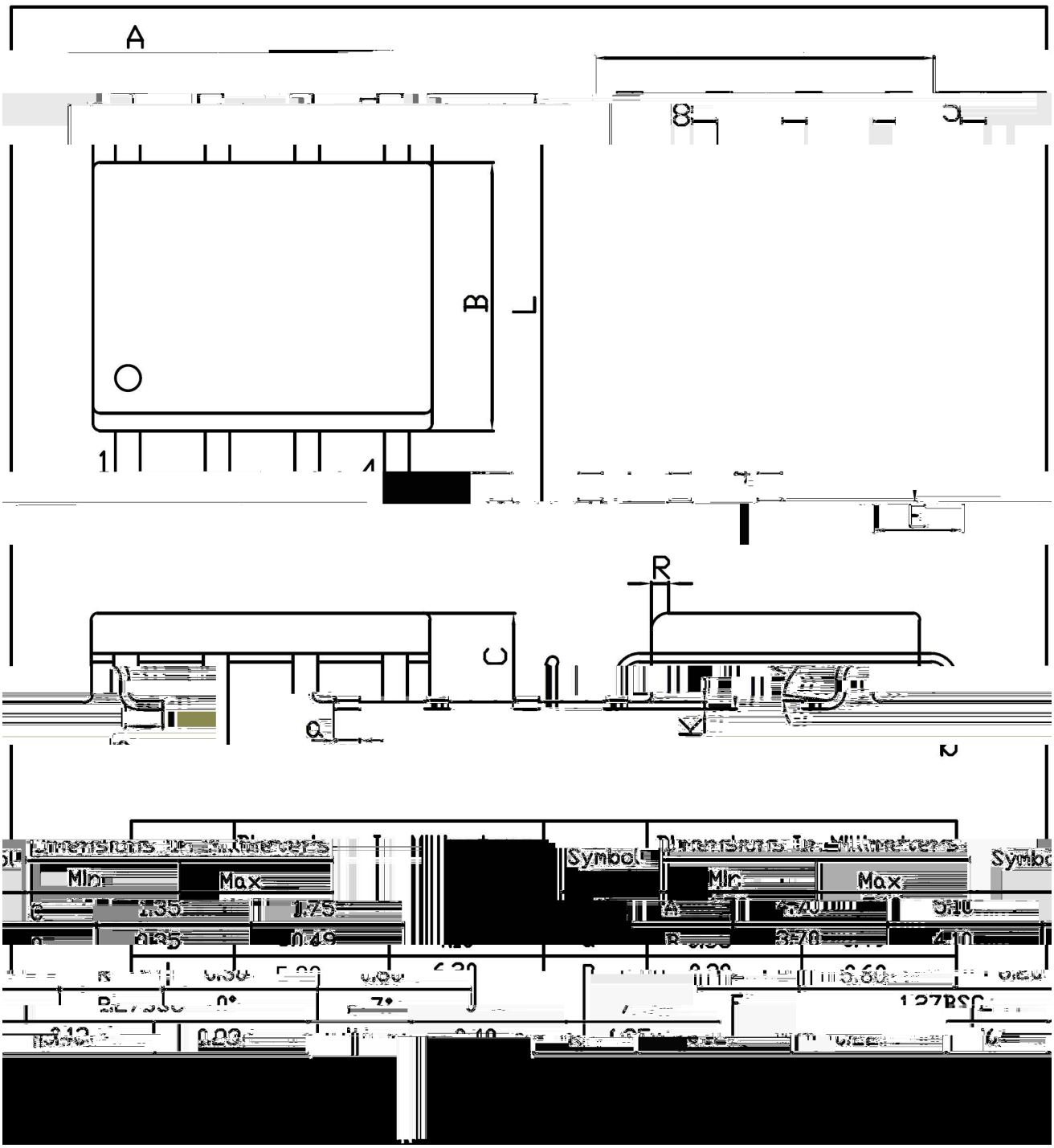


电参数曲线图 / Electrical Characteristic Curve

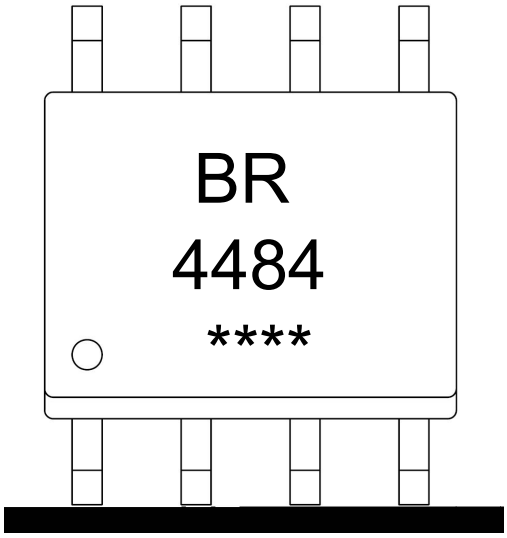


外形尺寸图 / Package Dimensions

SOP-8 Unit:mm



印章说明 / Marking Instructions



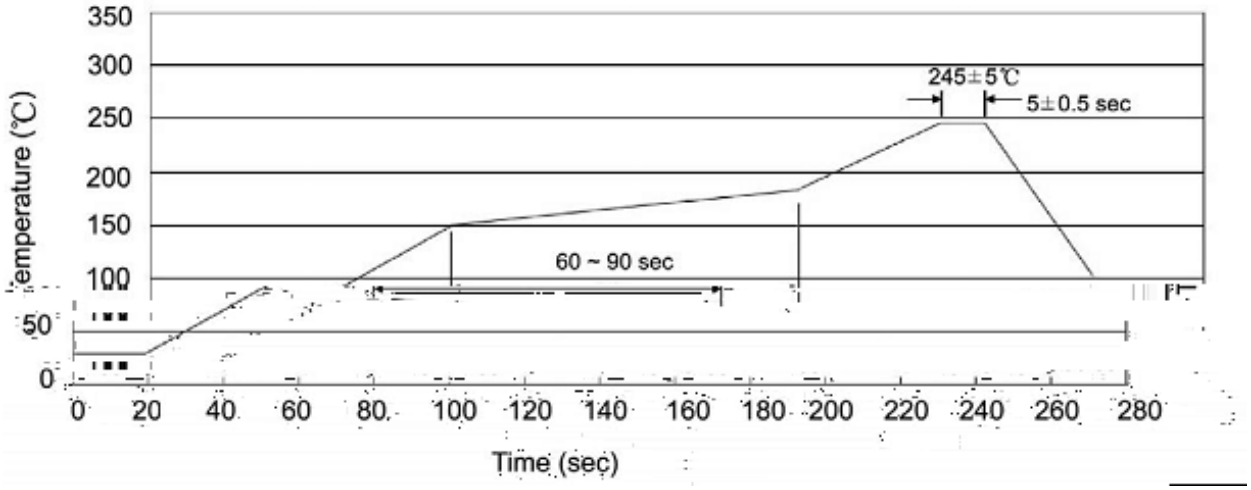
说明：

BR：	为公司代码
4484：	为型号代码
****：	为生产批号代码，随生产批号变化

Note:

BR:	Company Code.
4484:	Product Type.
****:	Lot No. Code, code change with Lot No.

回流焊温度曲线图(无铅) / Temperature Profile for IR Reflow Soldering(Pb-Free)



说明：

1、预热温度 150～180℃，时间 60～90sec;

2、峰值温度 245±5℃，时间持续为 5±0.5sec;

3、焊接制程冷却速度为

Note:

1.Preheating:150~180℃, Time:60~90sec.

2.Peak Temp.:245±5℃, Duration:5±0.5sec.