

/ Descriptions

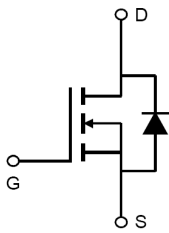
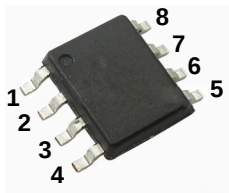
SOP-8 N MOS N-Channel MOSFET in a SOP-8 Plastic Package.

/ Features

$R_{DS\ ON}$ RoHS
 Low $R_{DS(ON)}$, Low Gate Charge, Optimized for fast-switching, RoHS .

/ Applications

DC/DC AC/DC /
 Synchronous Rectification in DC/DC and AC/DC Converters, Isolated DC/DC Converters in Telecom and Industrial.

/ Equivalent Circuit**/ Pinning**

PIN1:S PIN 2:S PIN 3 S PIN 4 G
 PIN5 PIN 6 PIN 7 PIN 8:D

/ h_{FE} Classifications & Marking

See Marking Instructions.

Parameter		Symbol	Rating	Unit
Drain-Source Voltage		V_{DS}	100	V
Gate-Source Voltage		V_{GS}	± 20	V
Continuous Drain Current	$T_A=25$	I_D	11.5	A
	$T_A=70$		9.0	A

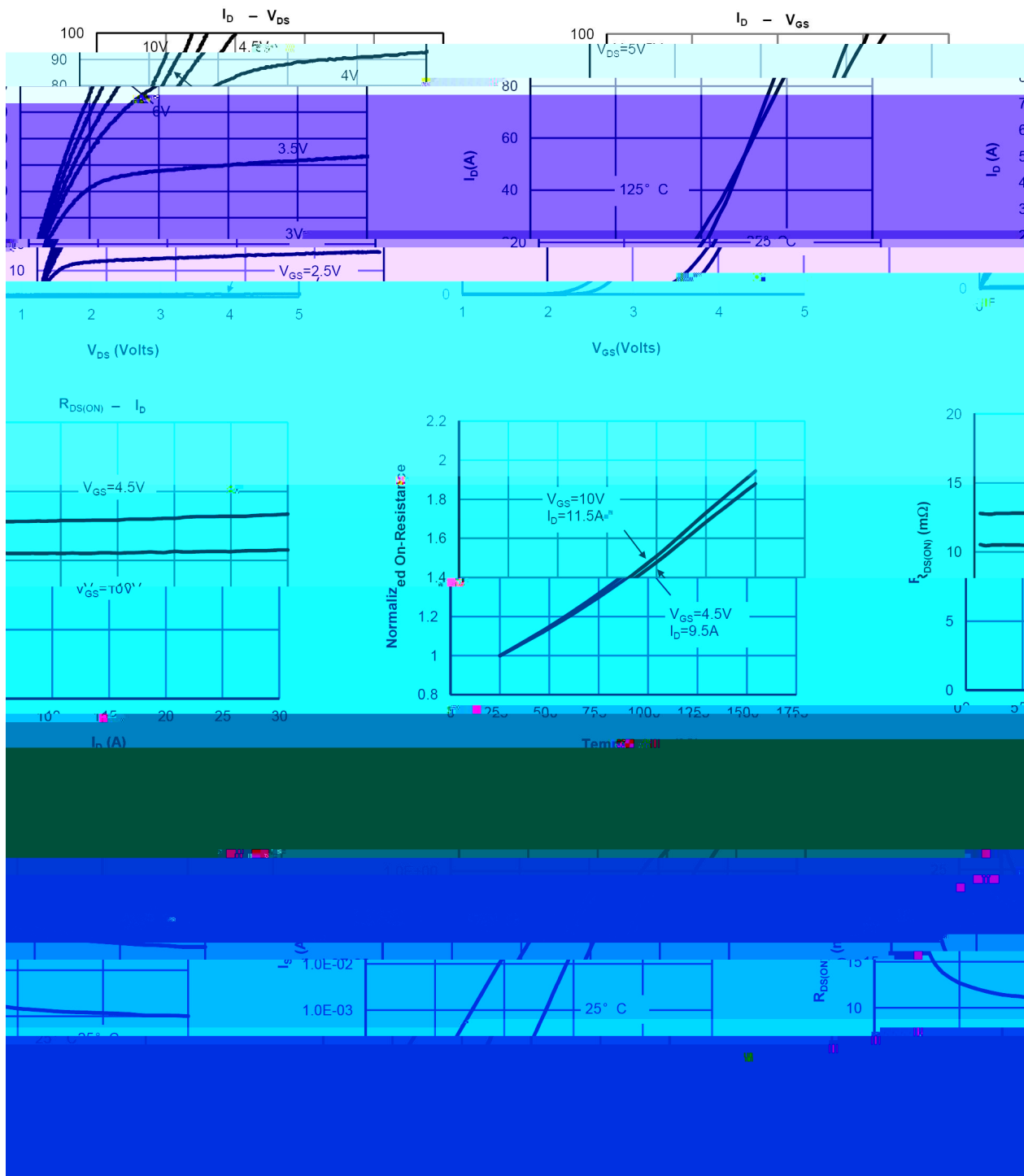
/ Electrical Characteristics(Ta=25)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Input Capacitance	C_{iss}	$V_{DS}=50V$ $V_{GS}=0V$ $f=1.0MHz$		2420		pF
Output Capacitance	C_{oss}			170		
Reverse Transfer Capacitance	C_{rss}			11		
Gate resistance	R_g	$f=1.0MHz$	0.20	0.55	0.90	Ω
Total Gate Charge(10V)	Q_g	$V_{DD}=10V$ $I_D=11.5A$ $V_{DS}=50V$		33	50	nC
Total Gate Charge(4.5V)				15	25	
Gate-Source Charge	Q_{gs}			7.0		
Gate-Drain Charge	Q_{gd}			4.0		
Turn-On Delay Time	$t_{d(on)}$	$V_{DD}=10V$ $V_{DS}=50V$ $R_L=4.35\Omega$ $R_{GEN}=3.0\Omega$		8.0		ns
Turn-On Rise Time	t_r			3.0		
Turn-Off Delay Time	$t_{d(off)}$			25		
Turn-Off Fall Time	t_f			4.0		
Body Diode Reverse Recovery Time	t_{rr}	$I_F=11.5A$ $di/dt=500A/\mu s$		25		ns
Body Diode Reverse Recovery Charge	Q_{rr}			110		nC

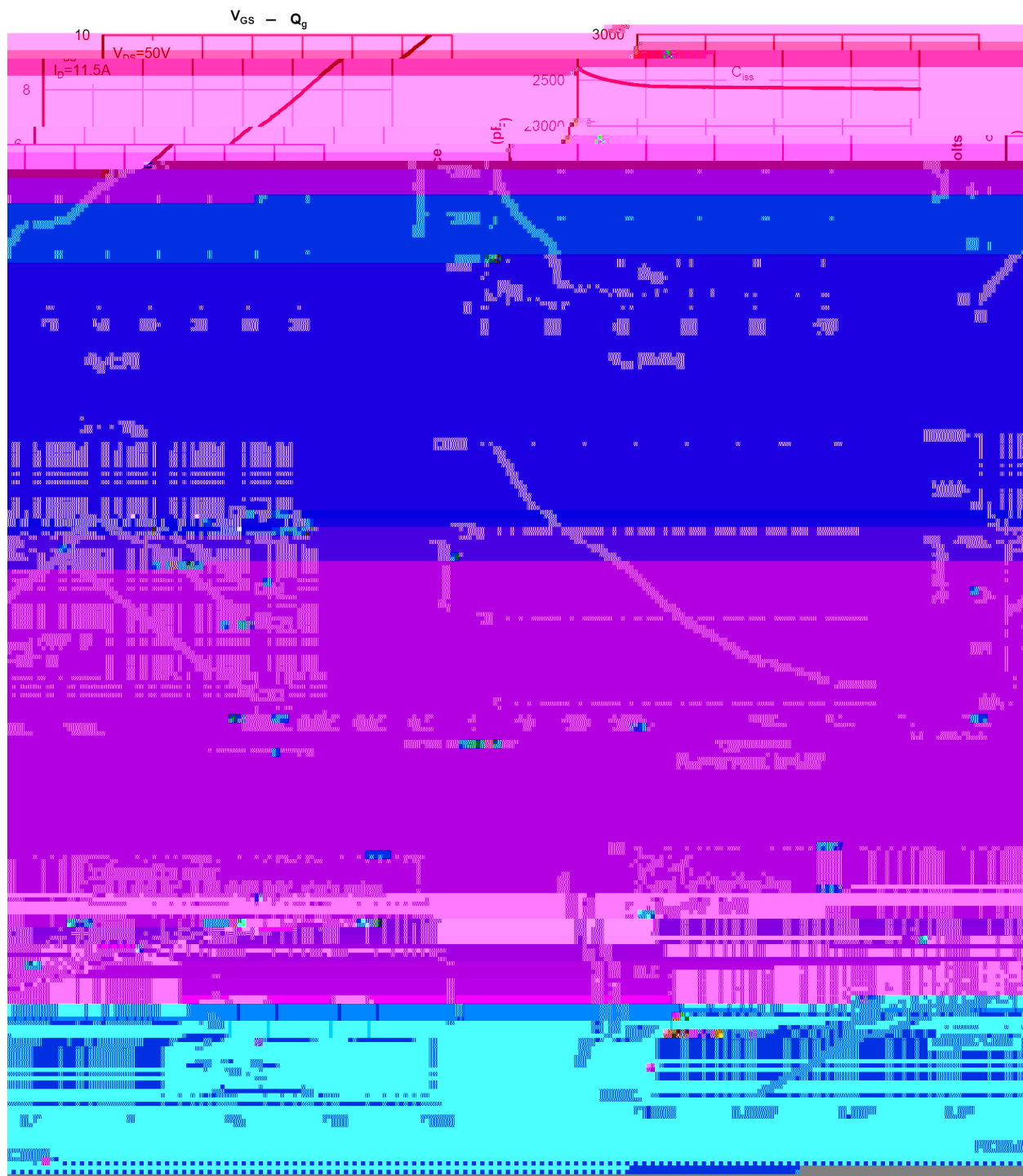
Notes:

- 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 $T_A=25^\circ C$. The value in any given application depends on the user's specific board design.
- B. The power dissipation P_D is based on $T_{J(MAX)}=150^\circ C$, using $\leq 10s$ junction-to-ambient thermal resistance.
- C. Repetitive rating, pulse width limited by junction temperature $T_{J(MAX)}=150^\circ C$. Ratings are based on low frequency and duty cycles to keep initial $T_J=25^\circ C$.
- D. The $R_{\theta JA}$ is the sum of the thermal impedance from junction to lead $R_{\theta JL}$ and lead to ambient.
- E. The static characteristics in Figures 1 to 6 are obtained using $<300\mu s$ pulses, duty cycle 0.5% max.
- F. These curves are based on the junction-to-ambient thermal impedance which is measured with the device mounted on 1in2 FR-4 board with 2oz. Copper, assuming a maximum junction temperature of $T_{J(MAX)}=150^\circ C$. The SOA curve provides a single pulse rating.

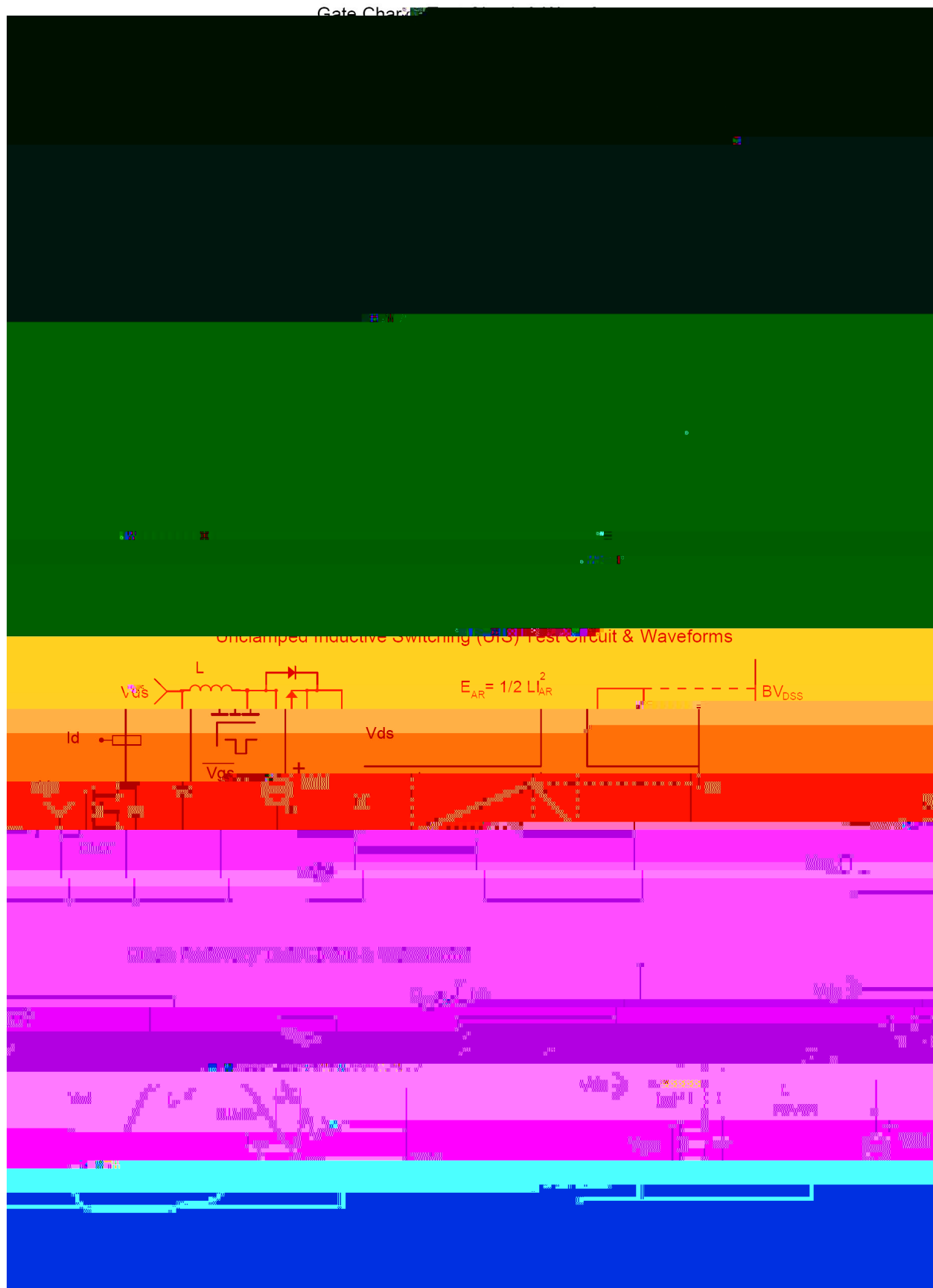
I Electrical Characteristic Curve



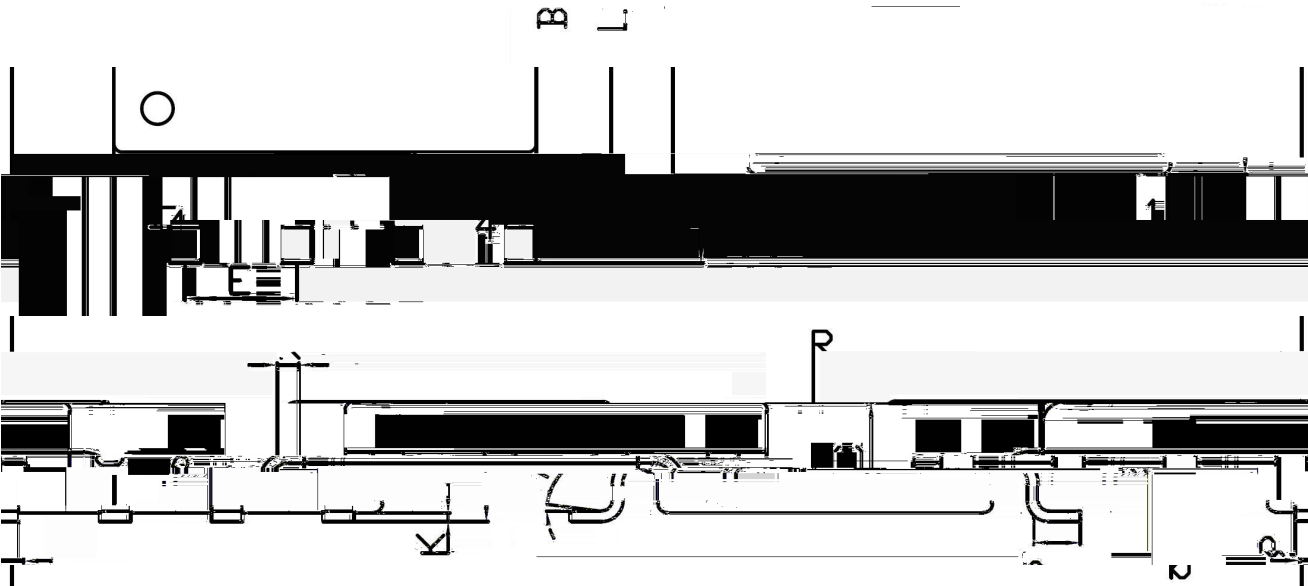
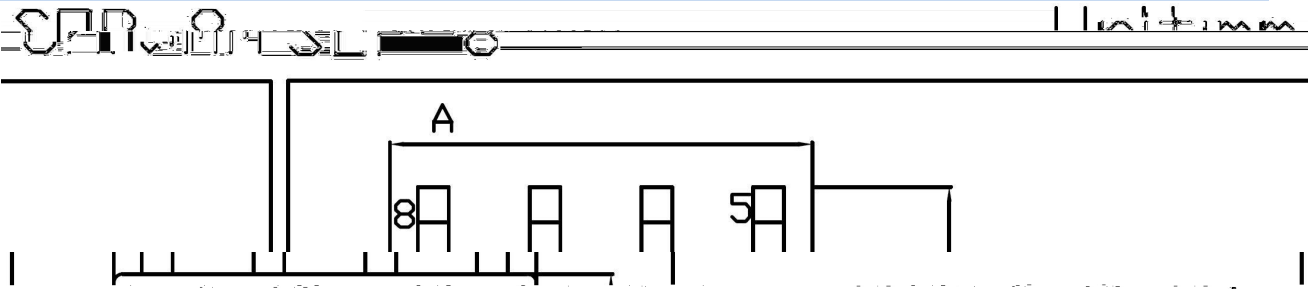
/ Electrical Characteristic Curve



/ Test Circuit & Waveform

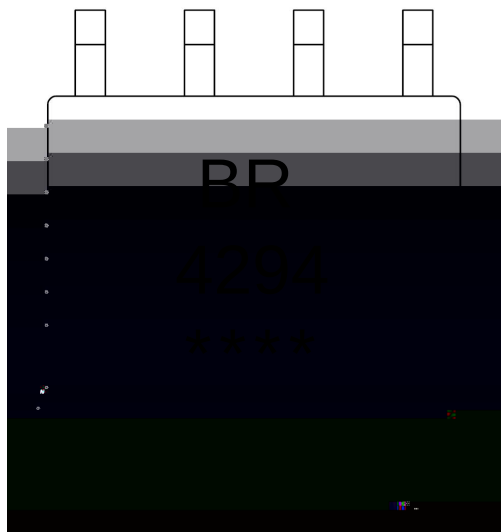


/ Package Dimensions



Dimensions In Millimeters				Dimensions In Millimeters			
Symbol	Min	Max	Typ	Symbol	Min	Max	Typ
A	4.70	5.10		G	0.125		
B	12.70	14.00		H	0.100		
C	0.80	0.90		I	0.100		
D	0.125			J	0.100		
E	0.125			K	0.100		
F	0.125			L	0.100		
				M	0.100		
				N	0.100		
				O	0.100		
				P	0.100		
				Q	0.100		
				R	0.100		
				S	0.100		
				T	0.100		
				U	0.100		
				V	0.100		
				W	0.100		
				X	0.100		
				Y	0.100		
				Z	0.100		

/ Marking Instructions



BR

4294

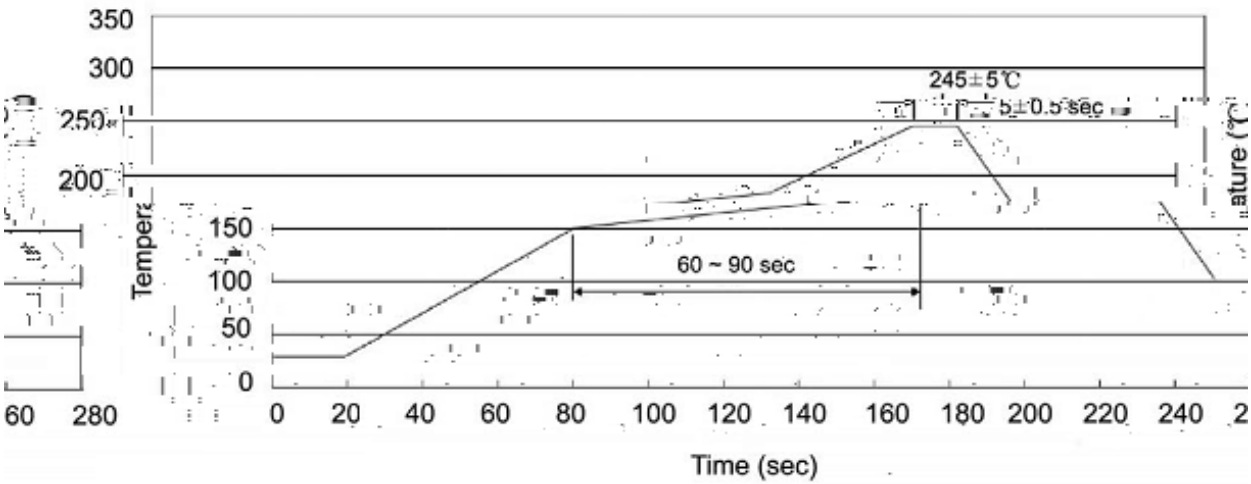
Note:

BR: Company Code.

4294 Product Type.

****: Lot No. Code, code change with Lot No.

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- 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.

/ Resistance to Soldering Heat Test Conditions

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

/ Packaging SPEC.

/ REEL

Package Type	Units					Dimension (unit mm ³)		
	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

/ Notices