

BRCS9435SC

Rev. I Jan.-2019

SOP-8 P Power Trench MOS
P-Channel Power Trench MOSFET in a SOP-8 Plastic Package.

$R_{DS\ ON}$

Low gate charge, Fast switching speed, High performance trench technology for extremely, low $R_{DS(ON)}$, High power and current handling capability. Halogen-free Product.

Power management, Load switch, Battery protection.

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

/ Absolute Maximum Ratings(Ta=25)

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DSS}	-30	V
Gate-Source Voltage	V_{GS}	± 20	V
Drain Current –Continuous (note 1a) –Pulsed	I_D	-5.3	A
		-50	A
Power Dissipation for Single Operation (note 1a) (note 1b) (note 1c)	P_D	2.5	W
		1.2	
		1.0	
Thermal Resistance, Junction-to-Ambient (note 1a)	$R_{\theta JA}$	50	$^{\circ}\text{C}/\text{W}$
Thermal Resistance, Junction-to-Ambient (note 1c)	$R_{\theta JA}$	125	$^{\circ}\text{C}/\text{W}$
Thermal Resistance, Junction-to case (note 1)	$R_{\theta JC}$	25	$^{\circ}\text{C}/\text{W}$
Operating and Junction Temperature Range	T_j T_{stg}	-55~175	$^{\circ}\text{C}$

/ Electrical Characteristics(Ta=25)

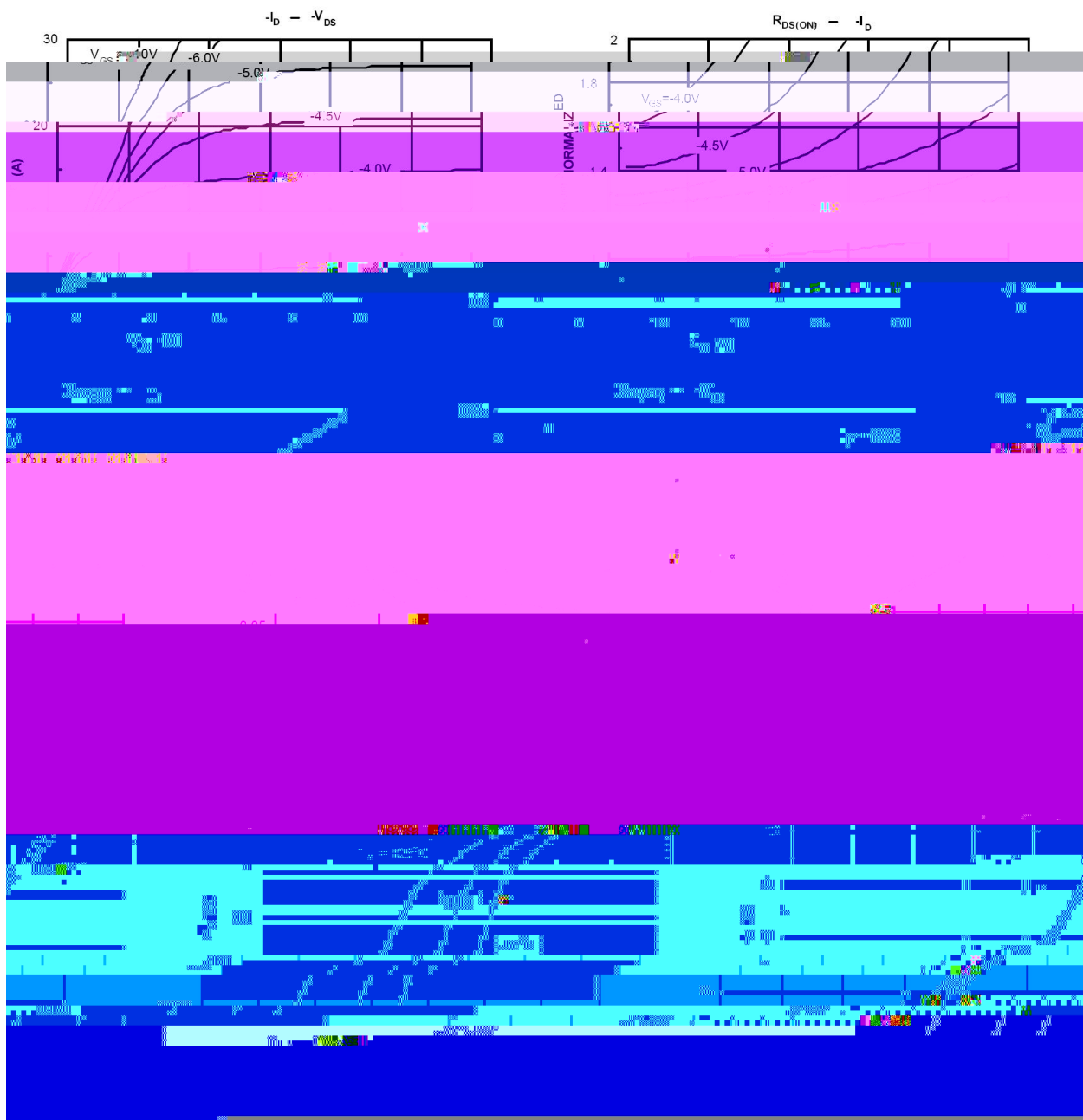
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	V_{DSS}	$V_{GS}=0V$ $I_D=-250\mu A$	-30			V
Breakdown Voltage Temperature Coefficient	$\Delta B_{V_{DSS}}/\Delta T_j$	$I_D=-250\mu A$ Referenced to 25 $^{\circ}\text{C}$		-23		mV/ $^{\circ}\text{C}$
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=-24V$ $V_{GS}=0V$			-1.0	μA
Gate-Body Leakage Current Forward	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	-1.7	-3.0	V
Gate Threshold Voltage Temperature Coefficient	$\Delta V_{GS(th)}/\Delta T_j$	$I_D=-250\mu A$ Referenced to 25 $^{\circ}\text{C}$		4.5		mV/ $^{\circ}\text{C}$
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=-10V$ $I_D=-5.3A$		42	50	m Ω
		$V_{GS}=-4.5V$ $I_D=-4A$		65	80	
		$V_{GS}=-10V$ $I_D=-5.3A$ $T_j=125^{\circ}\text{C}$		57	77	
On-State Drain Current	$I_{D(on)}$	$V_{GS}=-10V$ $V_{DS}=-5V$	-25			A
Forward Transconductance	g_{FS}	$V_{DS}=-5V$ $I_D=-5.3A$		10		S

/ Electrical Characteristics($T_a=25^\circ\text{C}$)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Input Capacitance	C_{iss}	$V_{DS}=-15V$ $V_{GS}=0V$ $f=1.0\text{MHz}$		528		pF
Output Capacitance	C_{oss}			132		

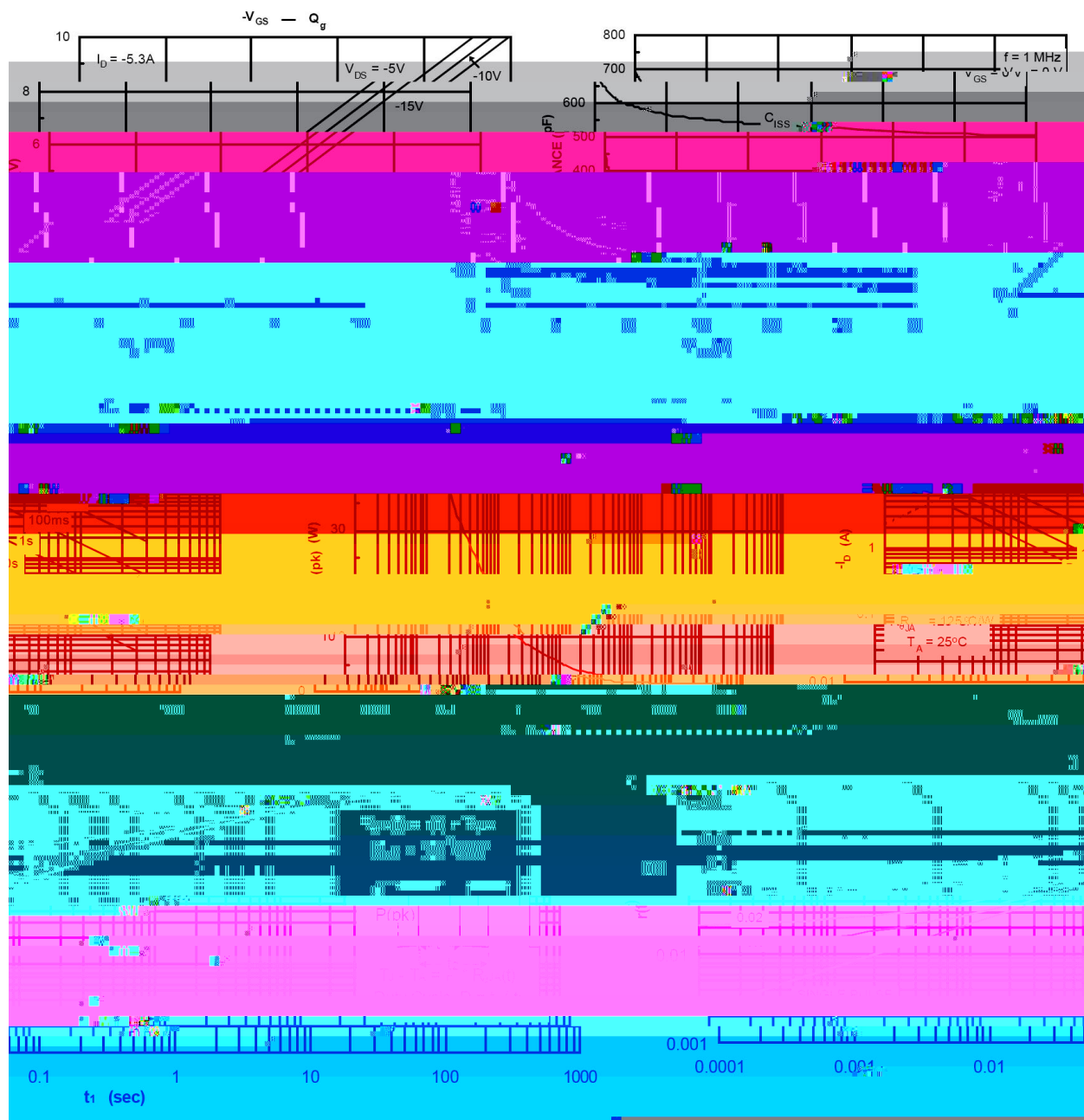


I Electrical Characteristic Curve





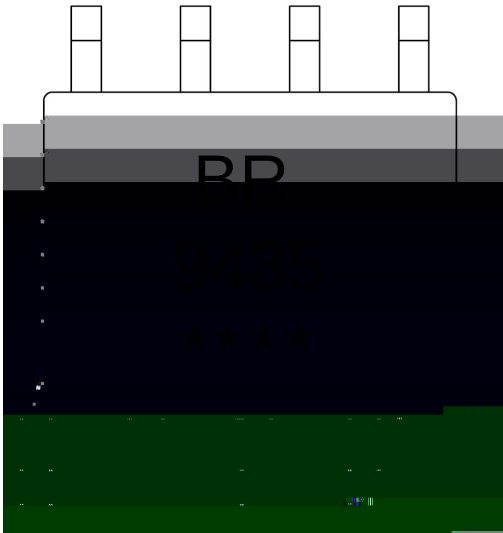
I Electrical Characteristic Curve



I Package Dimensions



/ Marking Instructions



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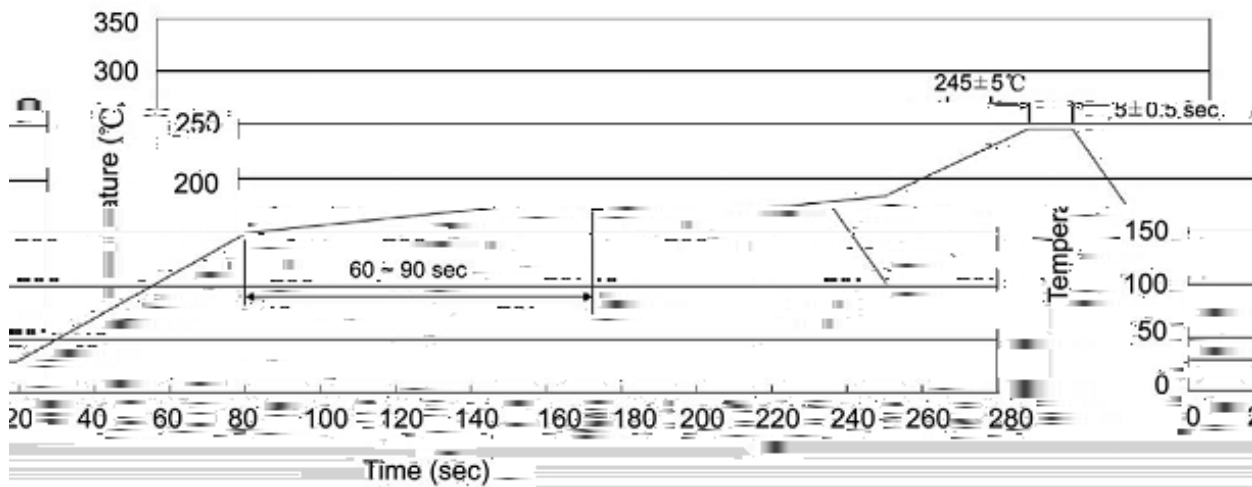
Note:

BR: Company Code.

9435: 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

Package Type	Units					Dimension		(unit mm ³)

/ Notices