

٢٣ / Descriptions

SOP-8 N MOS

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

• Ė / Features

$V_{DS}=30V$

$I_D=13A$ ($V_{GS} = 10V$)

$R_{DS(ON)} < 11.5m\Omega$ ($V_{GS}=10V$)

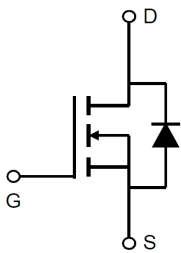
$R_{DS(ON)} < 15.5m\Omega$ ($V_{GS}=4.5V$)

Halogen-free Product.

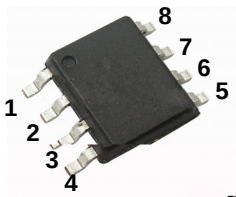
٧ ٣ / Applications

This device is suitable for high side switch in SMPS and general purpose applications.

٧ ٣ ٩ = ٤ / Equivalent Circuit



٩ ١ ٧ / Pinning



PIN1	S	PIN 2	S	PIN 3	S	PIN4	G
PIN 5	D	PIN 6	D	PIN 7	D	PIN 8	D

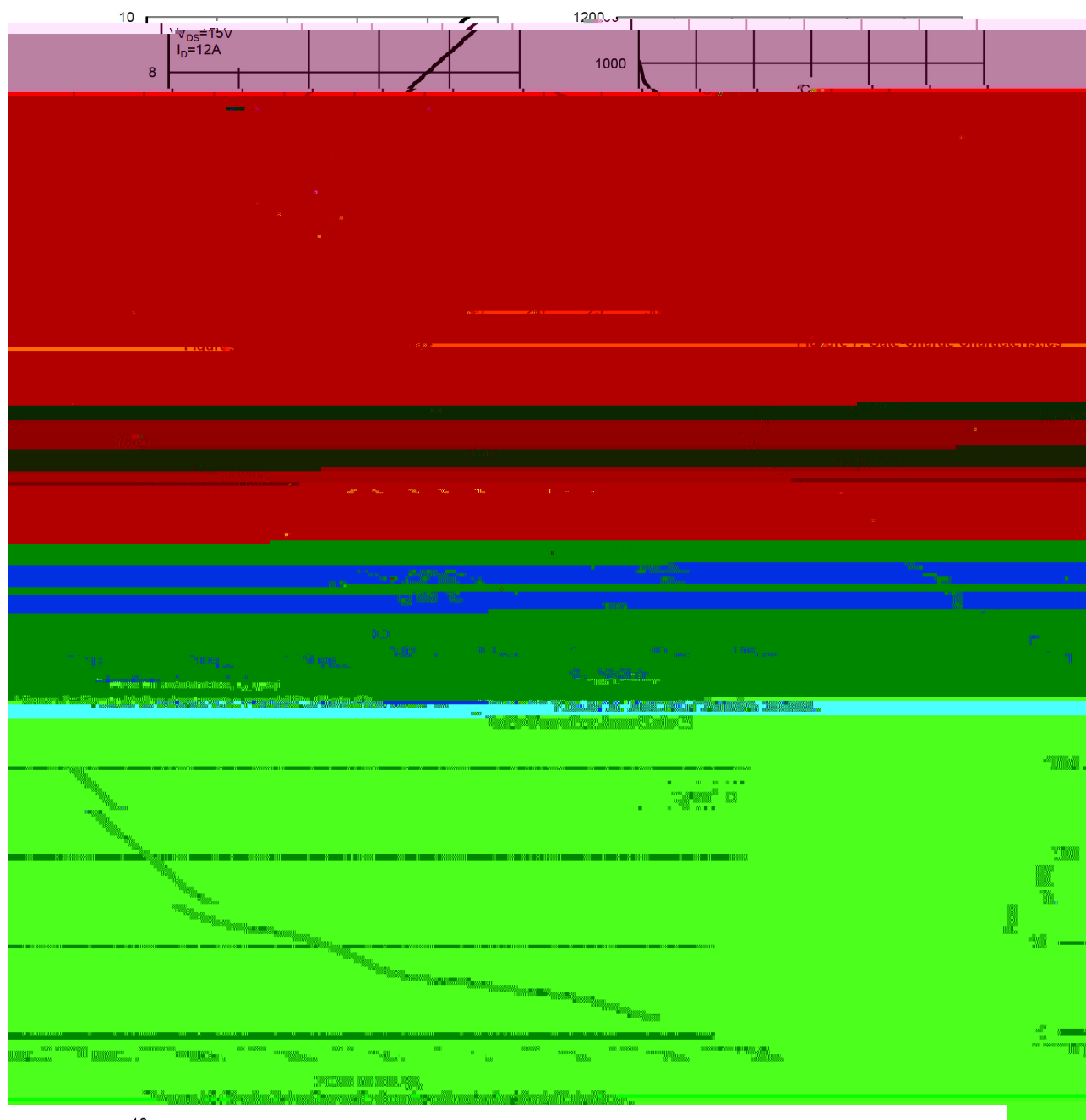
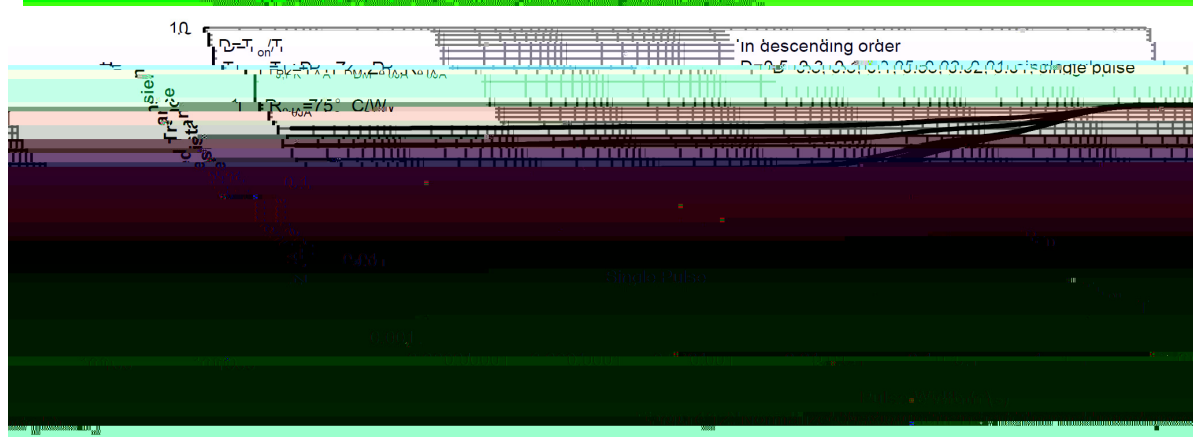
٩ ٣ ٣ ٤ ٧ ٣ / h_{FE} Classifications & Marking

See Marking Instructions.

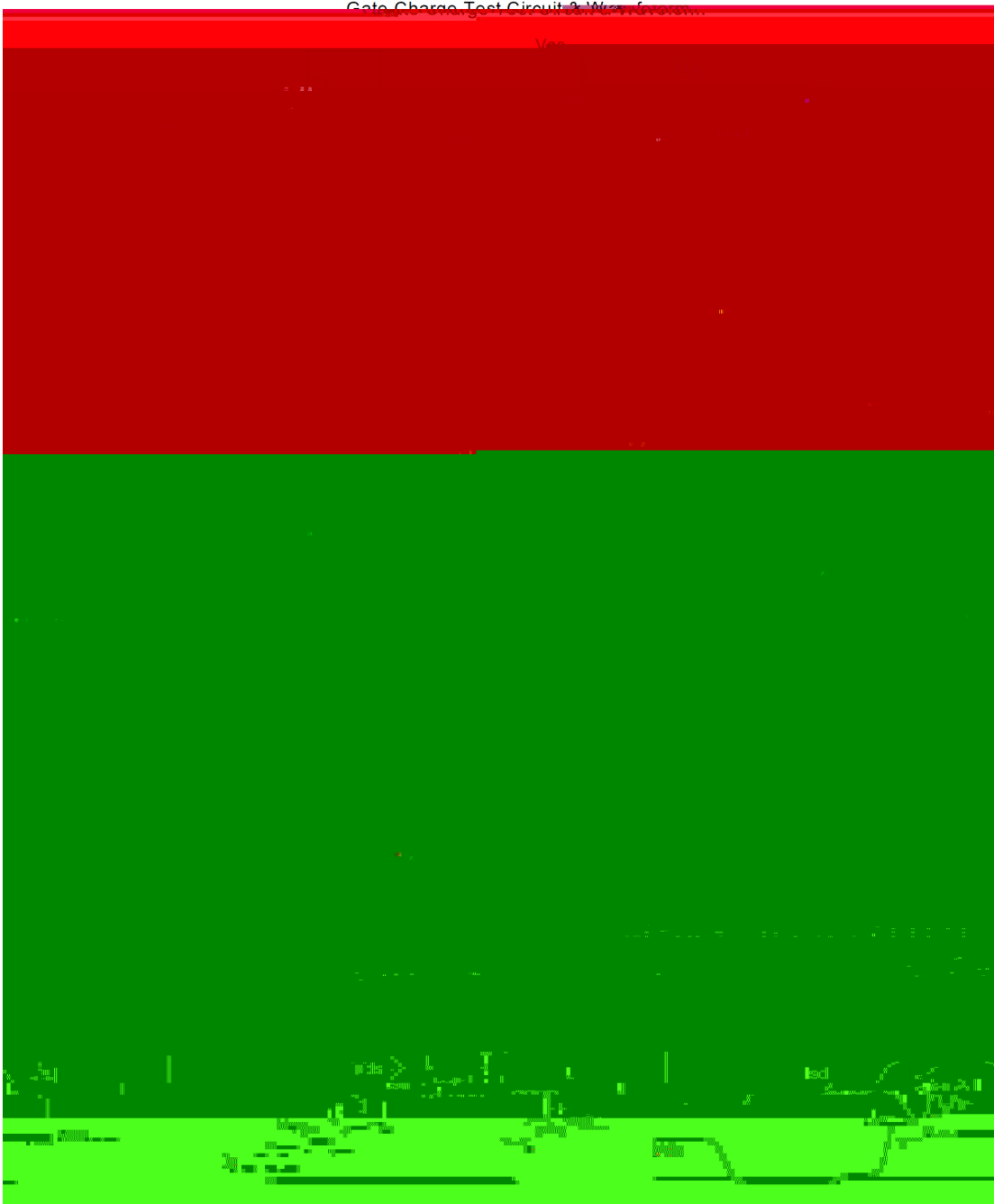
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	$V_{GS}=0V$ $I_D=250\mu A$	30			V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=30V$ $V_{GS}=0V$			1.0	μA
		$V_{DS}=30V$ $V_{GS}=0V$ $T_J=55$			5.0	μA
Gate-Body leakage current	I_{GSS}	$V_{GS}=\pm 20V$ $V_{DS}=0V$			± 100	nA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$ $I_D=250\mu A$	1.5	1.9	2.5	V
On state drain current	$I_{D(on)}$	$V_{DS}=5V$ $V_{GS}=10V$	100			A
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=10V$ $I_D=12A$		9.5	11.5	m Ω
		$V_{GS}=10V$ $I_D=12A$ $T_J=125$		14	17	m Ω
		$V_{GS}=4.5V$ $I_D=10A$		12.5	15.5	m Ω
Forward Transconductance	g_{FS}	$V_{DS}=5.0V$ $I_D=12A$		45		S
Diode Forward Voltage	V_{SD}	$V_{GS}=0V$ $I_S=1.0A$		0.75	1	V
Maximum Body-Diode Continuous Current	I_S				4	A
Input Capacitance	C_{iss}	$V_{DS}=15V$ $V_{GS}=0V$ $f=1.0MHz$		760		pF
Output Capacitance	C_{oss}			125		pF
Reverse Transfer Capacitance	C_{rss}			70		pF
Gate resistance	R_g	$V_{DS}=0V$ $V_{GS}=0V$ $f=1.0MHz$	0.8	1.6	2.4	Ω
Total Gate Charge(10V)	Q_g	$V_{GS}=10V$ $V_{DS}=15V$ $I_D=12A$		14	25	nC
Total Gate Charge(4.5V)				6.6	12	nC
Gate-Source Charge	Q_{gs}			2.4		nC
Gate-Drain Charge	Q_{gd}			3		nC
Gate-Source Charge	Q_{gs}	$V_{GS}=4.5V$ $V_{DS}=15V$ $I_D=12A$		2.4		nC
Gate-Drain Charge	Q_{gd}			3		nC
Turn-On Delay Time	$t_{d(on)}$	$V_{DS}=15V$ $V_{GS}=10V$ $R_L=1.25\Omega$ $R_{GEN}=3\Omega$		4.4		ns
Turn-On Rise Time	t_r			9		ns
Turn-Off Delay Time	$t_{d(off)}$			17		ns
Turn-Off Fall Time	t_f			6		ns
Body Diode Reverse Recovery Time	t_{rr}	$I_F=12A$ $dI/dt=100A/\mu s$				



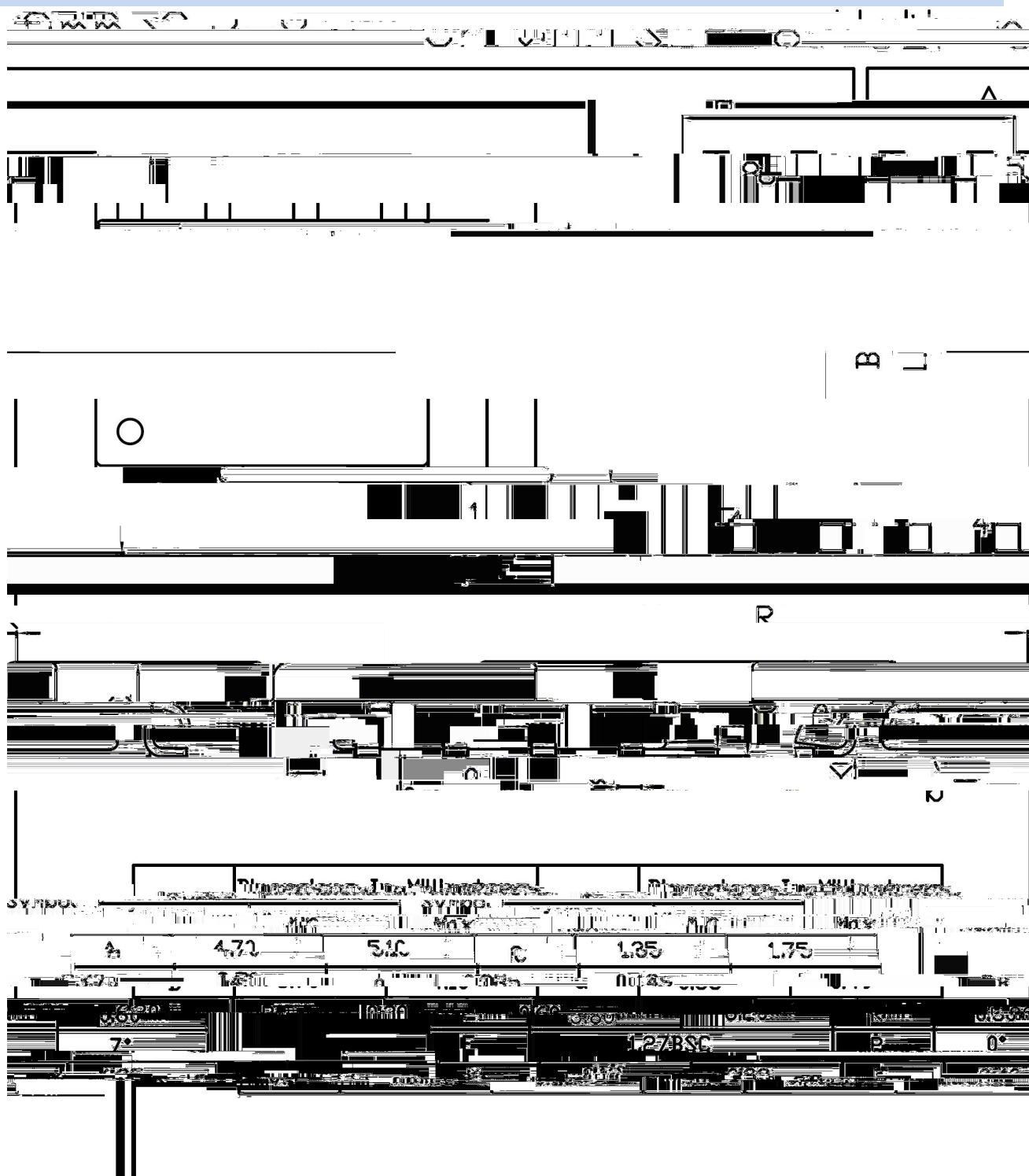
2 Electrical Characteristic Curve



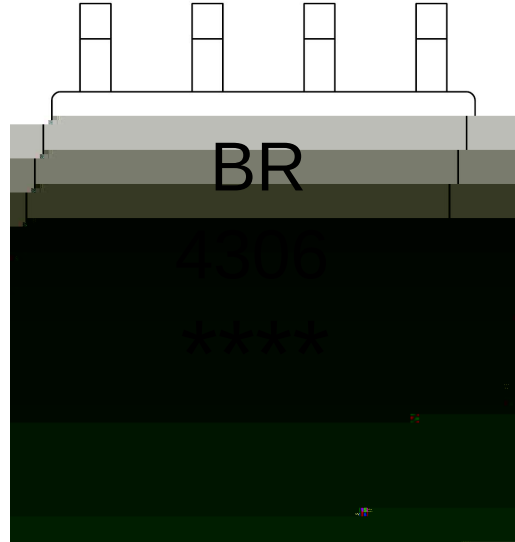
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⌘ É Ò Ì f / Package Dimensions



4. 1. 2 / Marking Instructions



BR

4306

Note:

BR: Company Code.

4306: Product Type.

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

该器件为静电敏感器件 /