/ Descriptions

TO-220 N MOS N-CHANNEL MOSFET in a TO-220 Plastic Package.

/ Features

$R_{DS(on)}$ C_{rss}

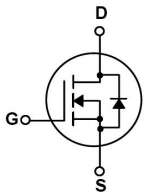
Low $R_{DS(on)}$,low gate charge, low C_{rss}, fast switching.

/ Applications

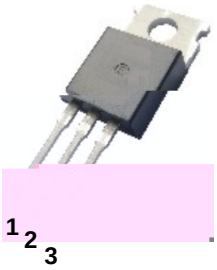
DC/DC

Suited for low voltage applications such as automotive, DC/DC Converters, and high efficiency switching for power management in portable and battery operated products.

/ Equivalent Circuit



/ Pinning



PIN1 G PIN 2 D PIN 3 S

/ h_{FE} Classifications & Marking

See Marking Instructions.

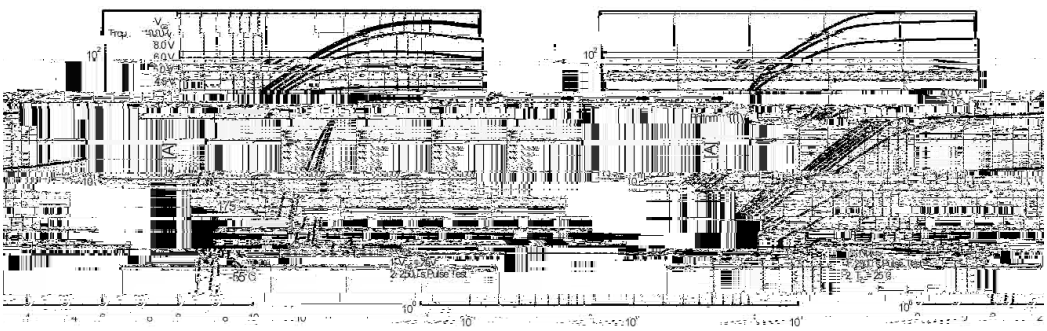
Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DSS}	60	V
Drain Current	I_D(T_c=25)	50	A
Drain Current	I_D(T_c=100)	35.4	A
Drain Current - Pulsed	I_{DM}	200	A
Gate-Source Voltage	V_{GS}	±20	V
Single Pulsed Avalanche Energy	E_{AS}	490	mJ
Avalanche Current	E_{AR}	12	mJ
Power Dissipation	P_D(Tc=25)	120	W
Operating Temperature Range	T_j	150	
Storage Temperature Range	T_{stg}	-55 150	

Parameter	Symbol	Test Conditions		Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	V_{GS}=0V	I_D=250μA	60			V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=60V	V_{GS}=0V			1.0	μA
		V_{DS}=48V	T_C=150			10	
Gate-Body Leakage Current, Forward	I_{GSS}	V_{GS}=±20V	V_{DS}=0V			±0.1	μA
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS}	I_D=250μA	2		4	V
Total Gate Charge	Q_g	V_{DS}=48V V_{GS}=10V	I_D=50A		32	42	nC
Static Drain-Source On-Resistance	$R_{DS(on)}$	V_{GS}=10V	I_D=25A		0.018	0.022	Ω
Drain-Source Diode Forward Voltage	V_{SD}	V_{GS}=0V	I_S=50A			1.5	V
Input Capacitance	C_{iss}	V_{DS}=25V f=1.0MHz	V_{GS}=0V		1050	1365	pF
Output Capacitance	C_{oss}				460	600	

47ev64 4816l1066.76 206.9606804 22 13( )897DS

/ Electrical Characteristic Curve

$I_D - V_{DS}$

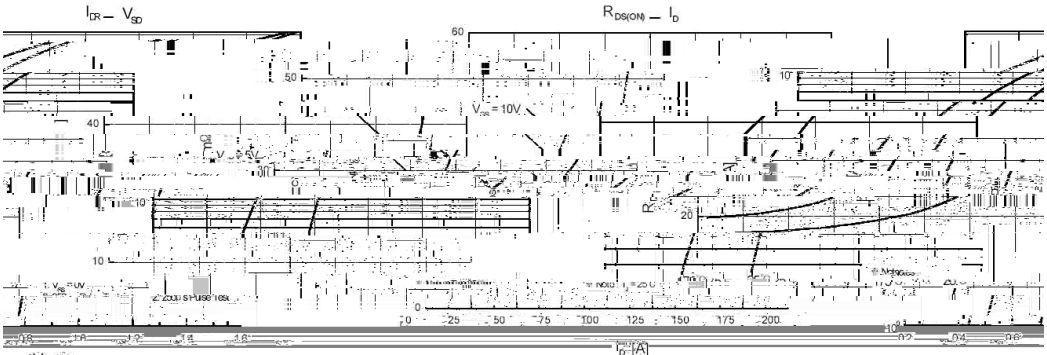


V_{GS} [V]

$I_D - V_{GS}$

V_{DS} [V]

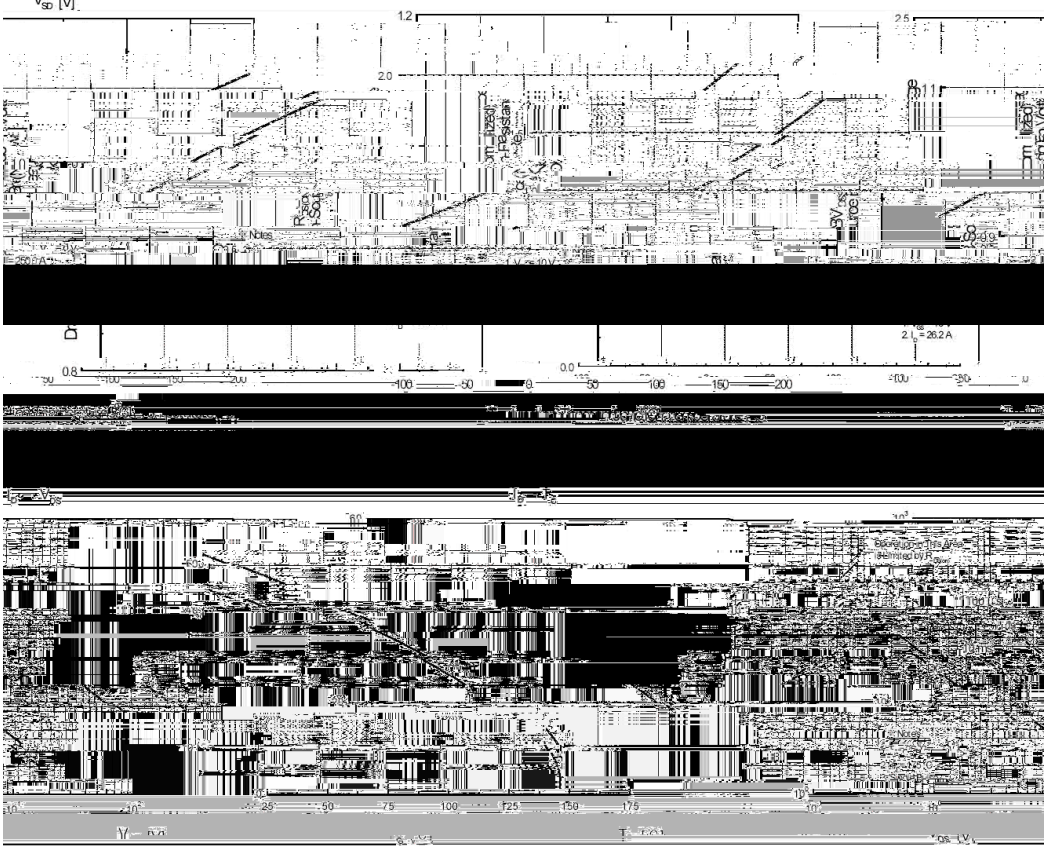
$I_{DR} - V_{SD}$



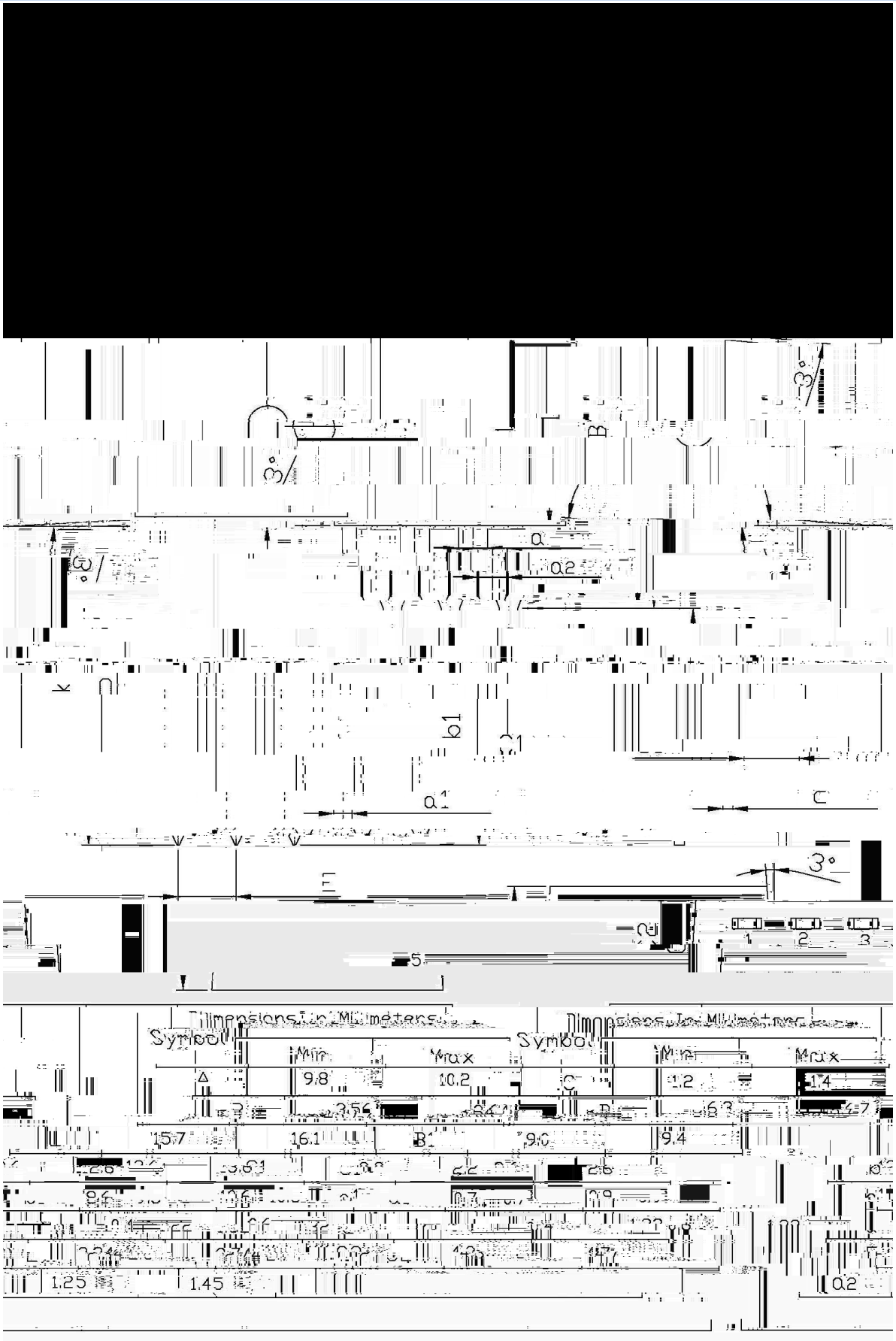
V_{SD} [V]

$R_{DS(ON)} - I_D$

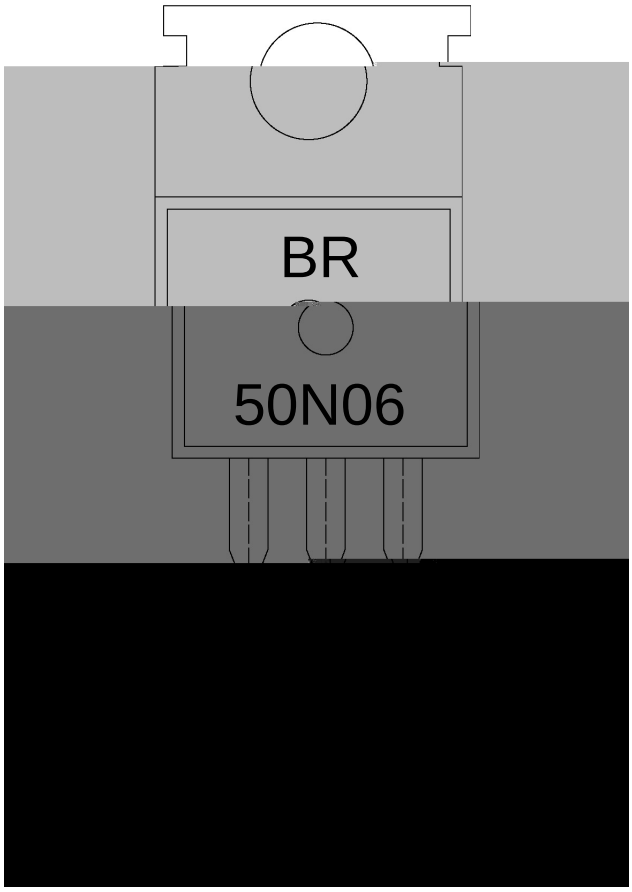
I_D [A]



/ Package Dimensions



/ Marking Instructions



BR

50N06

****

Note:

BR:	Company Code
50N06:	Product Type Code
****:	Lot No. Code, code change with Lot No.

/ Packaging SPEC.

/ BULK

Package Type	Units					Dimension		(unit mm^3)