

N TO-220

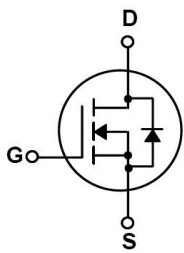
N-CHANNEL MOSFET in a TO-220 Plastic Package.

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

Low $R_{DS(on)}$, low gate charge, low C_{rss} , fast switching, Trench Technologies. Halogen-free Product.

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.

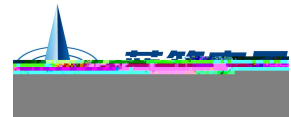


PIN1 G

PIN 2 D

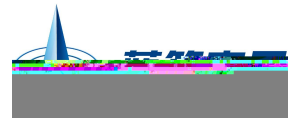
PIN 3 S

See Marking Instructions.



参数 Parameter		符号 Symbol	数值 Rating	单位 Unit
Drain-Source Voltage		V _{DSS}	60	V
Drain Current		I _D (Tc=25℃)	50	A
Drain Current - Pulsed		I _{DM}	200	A
Gate-Source Voltage		V _{GS}	±20	V
Avalanche Current		I _{AS}	20	A
Single Pulsed Avalanche Energy		E _{AS}	170	mJ
Power Dissipation		P _D (Tc=25℃)	75	W
Storage Temperature Range		T _{stg}	-55~150	℃
Thermal Resistance-Junction to Ambient	t ≤ 10s	R _{θJA}	12.5	℃/W
	Steady-State		51	
Thermal Resistance-Junction to Case	Steady-State	R _{θJC}	1.7	

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
Drain-Source Breakdown Voltage	BV_{DSS}	$V_{GS}=0V$ $I_D=250\mu A$	60	66		V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=60V$ $V_{GS}=0V$			1.0	μA
		$V_{DS}=48V$ $T_C=150^{\circ}C$			10	
Gate-Body Leakage Current Forward	I_{GSS}	$V_{GS}=\pm 20V$ $V_{DS}=0V$			± 0.1	μA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$ $I_D=250\mu A$	1	1.7	3	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=10V$ $I_D=25A$		11.8	15	m Ω
		$V_{GS}=4.5V$ $I_D=18A$		15.5	20	
Drain-Source Diode Forward Voltage	V_{SD}	$V_{GS}=0V$ $I_S=25A$			1.25	V
Gate resistance	R_g	$V_{GS}=0V$ $V_{DS}=0V$, $f=1MHz$		1.49		Ω
Input Capacitance	C_{iss}	$V_{DS}=25V$ $V_{GS}=0V$ $f=1.0MHz$		2640		pF
Output Capacitance	C_{oss}			128		
Reverse Transfer Capacitance	C_{rss}			115		
Total Gate Charge	$Q_g(10V)$	$V_{GS}=10V$ $V_{DS}=30V$ $I_D=20A$		47.5	68	nC
Total Gate Charge	$Q_g(4.5V)$			24	35	
Gate Source Charge	Q_{gs}			6		
Gate Drain Charge	Q_{gd}			14.5		



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
Turn-On Delay Time	$t_{d(on)}$	$V_{GS}=10V$ $V_{DS}=30V$ $R_L=1.5\Omega$ $R_{GEN}=3\Omega$		8		ns
Turn-On Rise Time	t_r			5		
Turn-Off Delay Time	$t_{d(off)}$			30		
Turn-Off Fall Time	t_f			5.5		

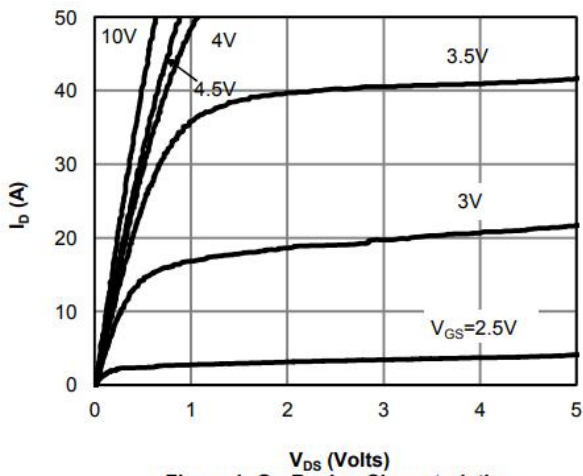
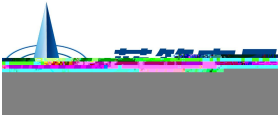


Figure 1: On-Region Characteristics

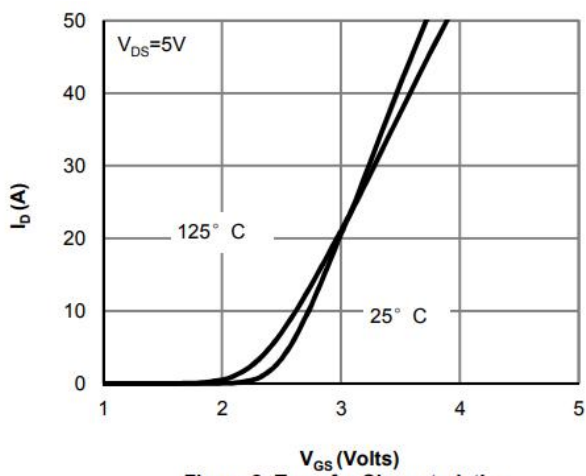
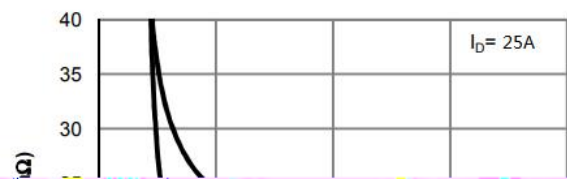
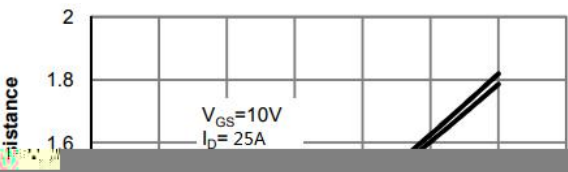
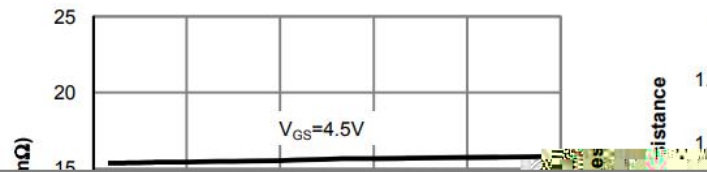
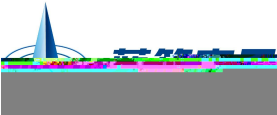
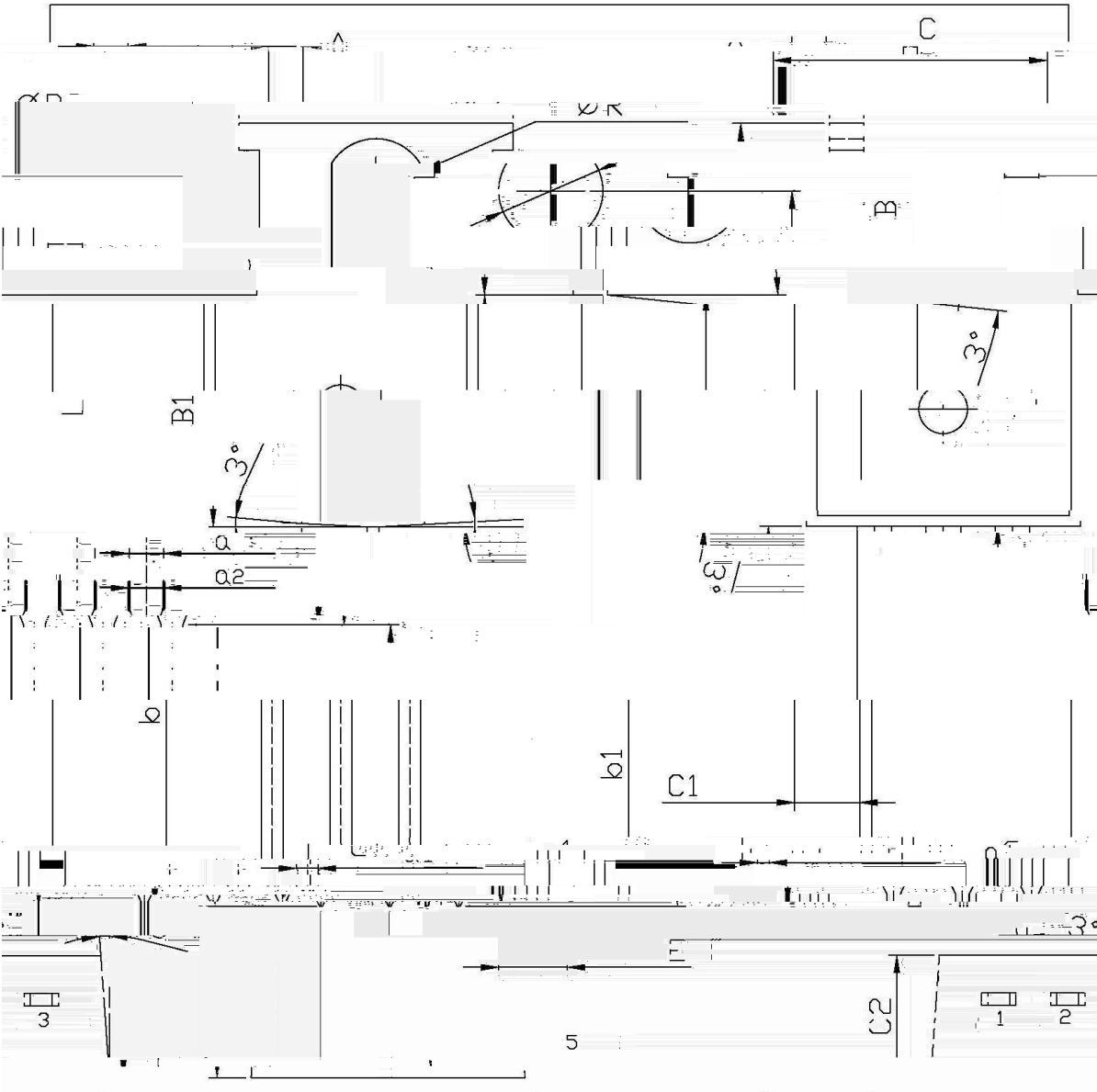


Figure 2: Transfer Characteristics

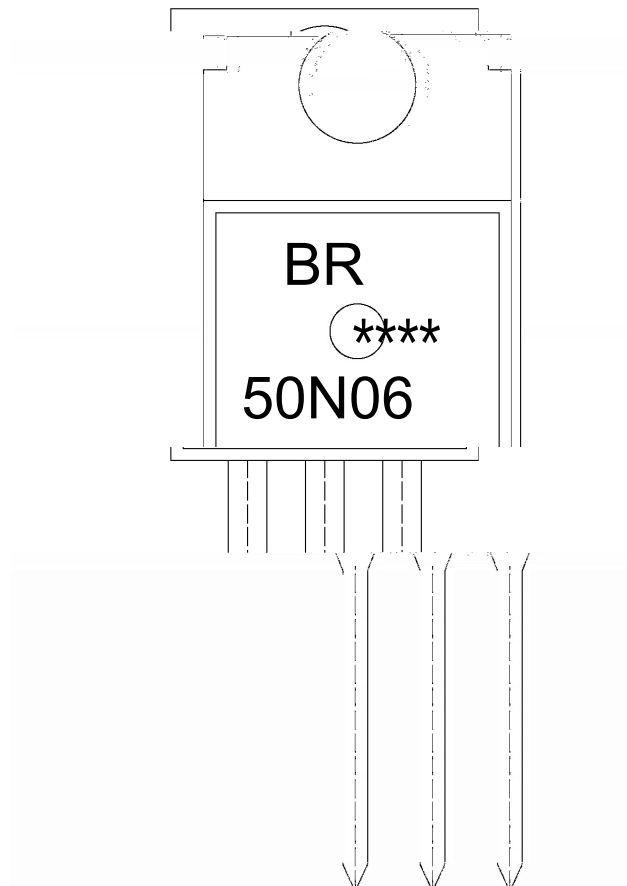
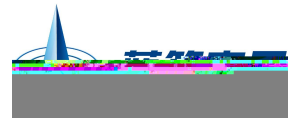




□-220 单位: mm



Dimensions In Millimeters			Dimensions In Millimeters			
Symbol	Min	Max	Symbol	Min	Max	
A	9.8	10.2	C	1.2	1.4	
6.7		R	3.56	3.64	B	6.3
9.4				16.1	B1	9.0
0.6	a1	0.7			b1	9.6
0.22	1.32	C1	0.6		a	
2.34	2.74	C2	4.3	4.7	E	
1.25	1.45				a2	



Note:

BR: Company Code

50N06: Product Type.

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

