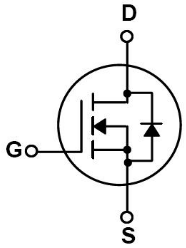
TO-252 N
N-CHANNEL MOSFET in a TO-252 Plastic Package.

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

/ Absolute Maximum Ratings(Ta=25)

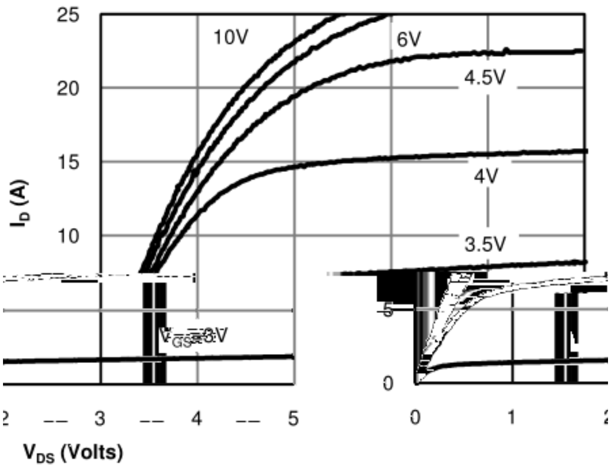
Parameter		Symbol	Rating	Unit
Drain-Source Voltage		V_{DSS}	100	V
Drain Current		I_D(Tc=25)	15	A
Drain Current		I_D(Tc=100)	10	A
Drain Current - Pulsed*		I_{DM}	45	A
Gate-Source Voltage		V_{GS}	±20	V
Single Pulsed Avalanche Energy		E_{AS}	90	mJ
Avalanche Current		I_{AS}	9.1	A
Power Dissipation		P_D(Tc=25)	39	W
Operating and Storage Temperature Range		T_j T_{stg}	-55 150	
Junction-to-Ambient	t 10s	R_{JA}	20	/W
Junction-to-Ambient	Steady-State		50	
Junction-to-Case	Steady-State	R_{JC}	3.2	

*Repetitive rating; pulse width limited by max. junction temperature.

/ Electrical Characteristics(Ta=25)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	V_{GS}=0V I_D=250 A	100			V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=100V V_{GS}=0V			1.0	A
		T_J=125			50	
Gate-Body Leakage Current Forward	I_{GSS}	V_{GS}=±20V V_{DS}=0V			±100	nA
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS} I_D=250 A	1	1.9	3	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	V_{GS}=10V I_D=8.5A		75	90	m
		T_J=125		142		
Drain-Source Diode Forward Voltage	V_{SD}	V_{GS}=0V I_S=15A		1.0	1.2	V
Gate resistance	R_g	V_{GS}=0V V_{DS}=0V f=1MHz		1.3		
Input Capacitance	C_{iss}	V_{DS}=25V V_{GS}=0V f=1.0MHz		250		pF
Output Capacitance	C_{oss}			125		pF
Reverse Transfer Capacitance	C_{rss}			20		pF
Total Gate Charge(10V)	Q_g	V_{GS}=10V V_{DS}=50V I_D=5A		5.8		nC
Total Gate Charge(4.5V)	Q_g			2.8		nC
Gate Source Charge	Q_{gs}			1.1		nC
Gate Drain Charge	Q_{gd}			1.2		nC
Turn-On Delay Time	$t_{d(on)}$	V_{GS}=10V V_{DS}=50V R_L=10 R_{GEN}=3		6		ns
Turn-On Rise Time	t_r			2.5		ns
Turn-Off Delay Time	$t_{d(off)}$			18		ns
Turn-Off Fall Time	t_f			2.5		ns

/ Electrical Characteristic Curve



ion Characteristics **Fig 1: On-Reg**

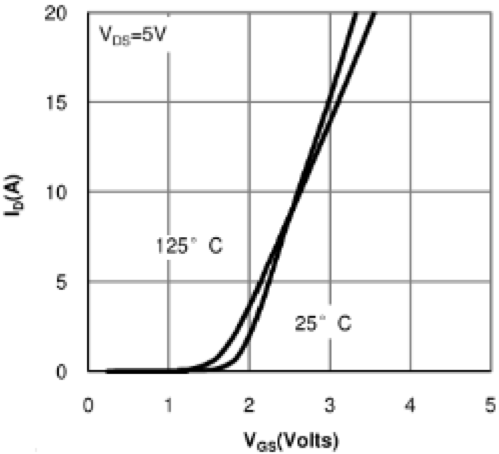
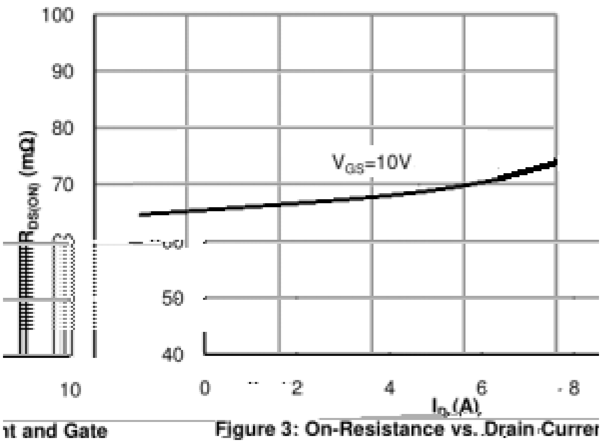


Figure 2: Transfer Characteristics



it and Gate **Figure 3: On-Resistance vs. Drain Curren Voltage**

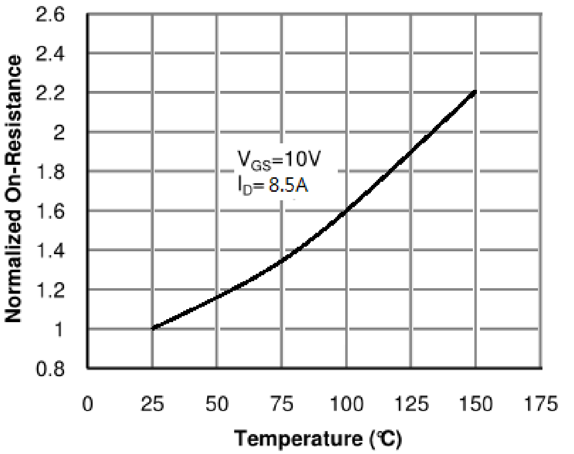
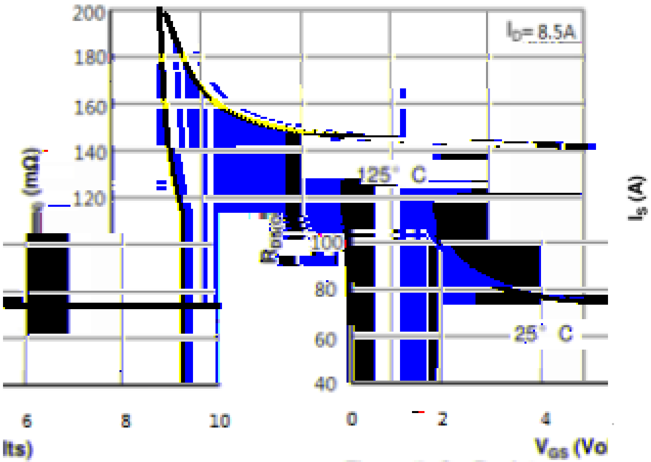


Figure 4: On-Resistance vs. Junction Temperature



. Gate-Source Voltage **Figure 5: On-Resistance vics**

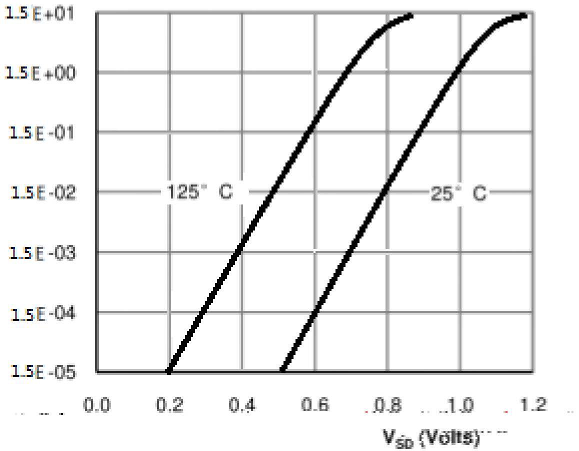


Figure 6: Body-Diode Characteristi

/ Electrical Characteristic Curve

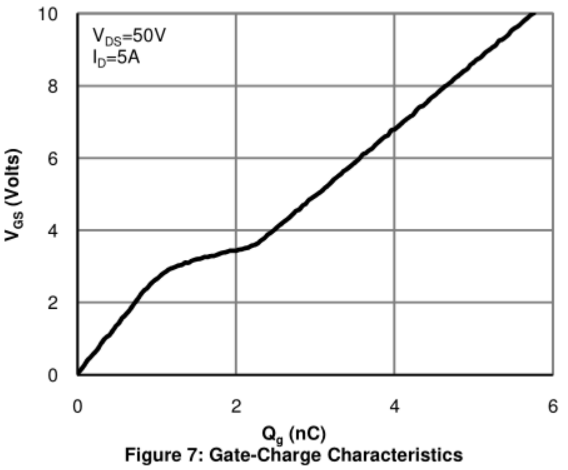


Figure 7: Gate-Charge Characteristics

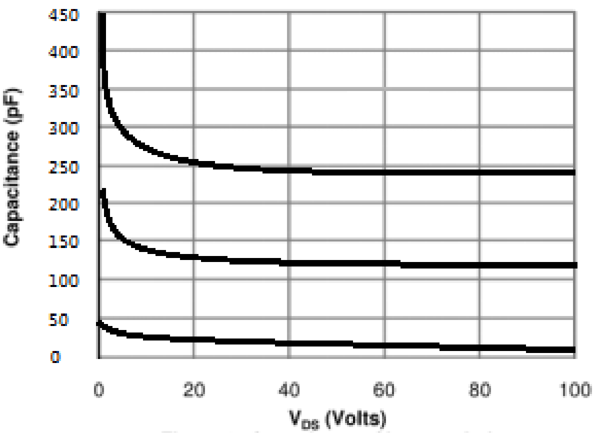


Figure 8: Capacitance Characteristics

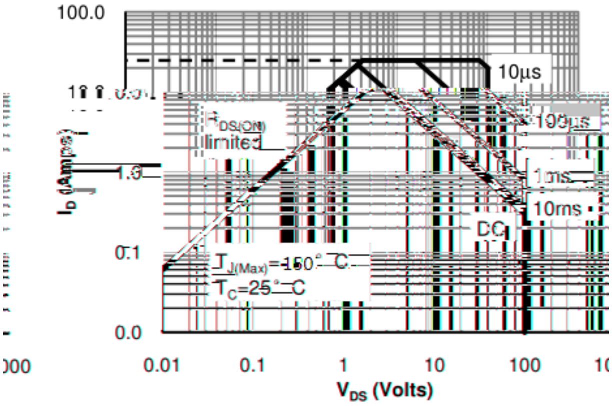
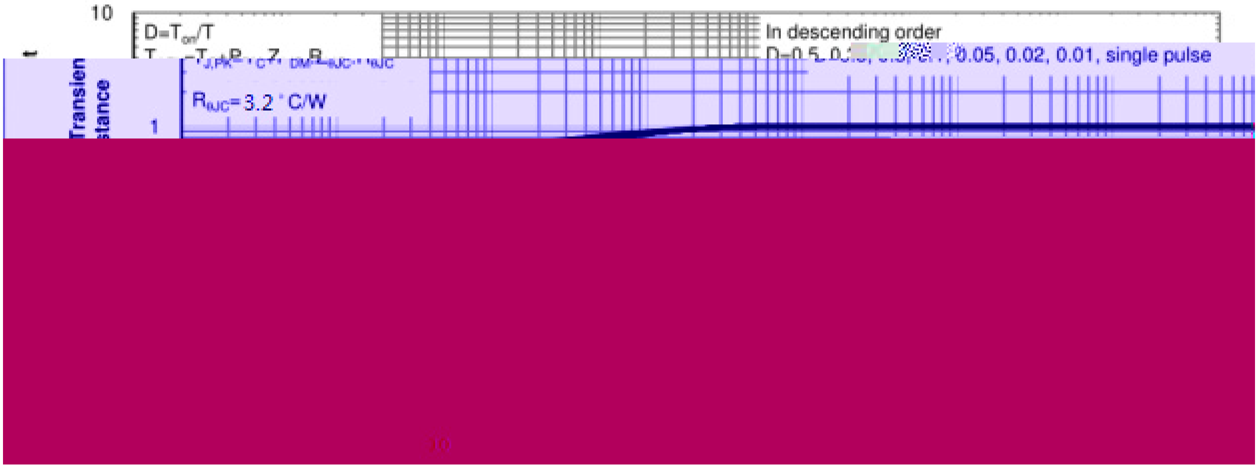
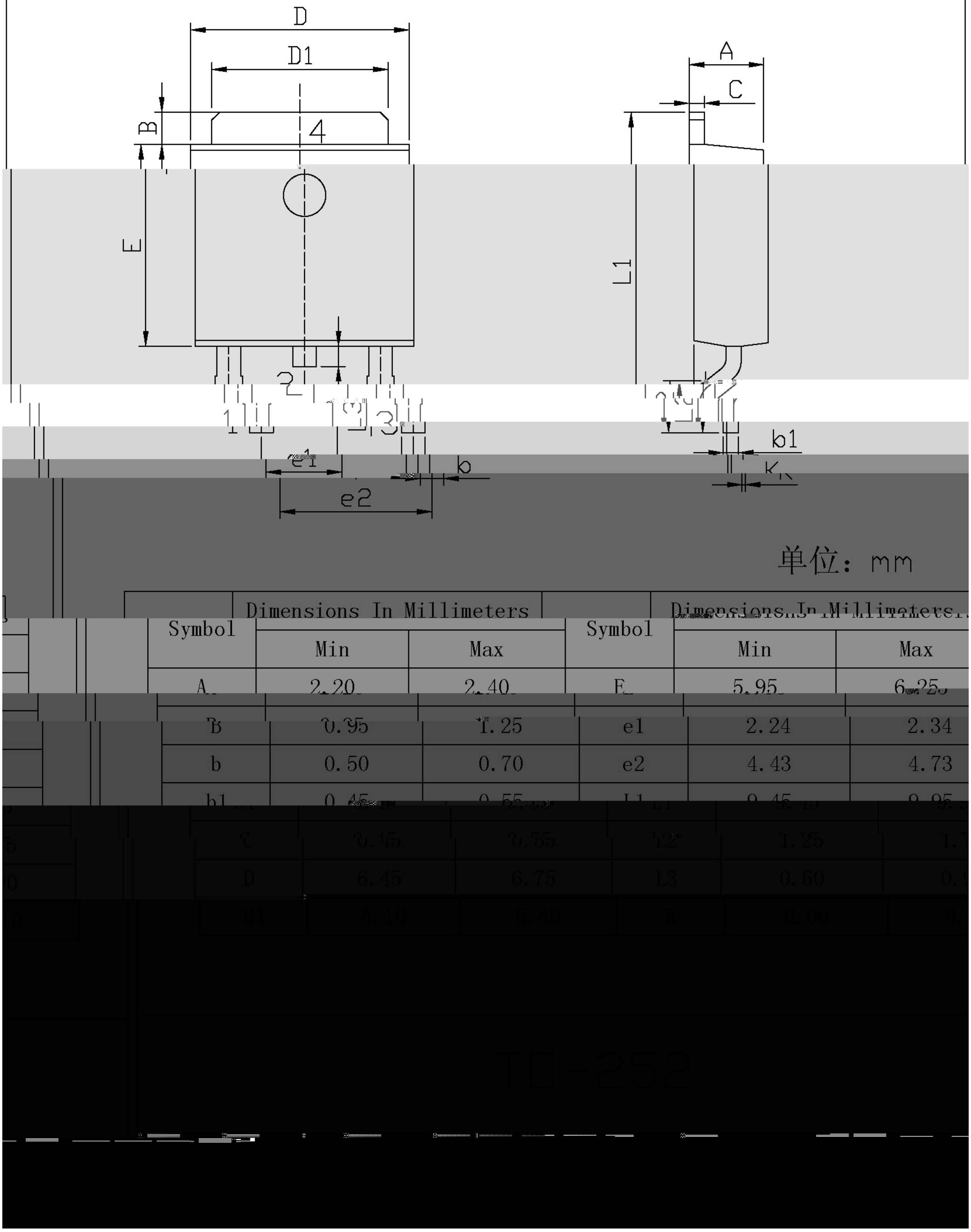


Figure 9: Maximum Forward Biased Safe Operating Area



/ Package Dimensions

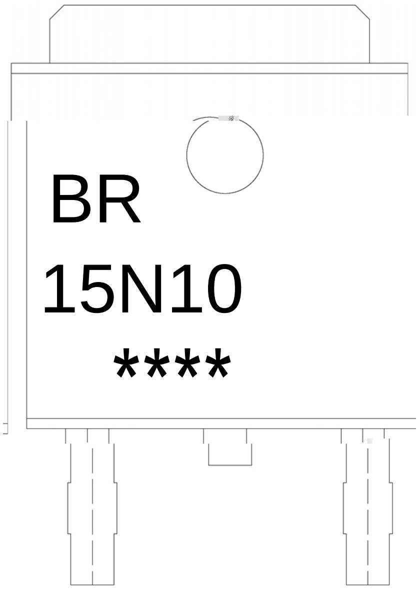


单位：mm

Symbol	Dimensions In Millimeters		Symbol	Dimensions In Millimeters	
	Min	Max		Min	Max
A	2.20	2.40	E	5.95	6.25
B	0.95	1.25	e1	2.24	2.34
b	0.50	0.70	e2	4.43	4.73
b1	0.45	0.55	L1	9.45	9.95
C	0.45	0.55	L2	1.25	[illegible]
D	6.45	6.75	L3	0.60	[illegible]
D1	5.10	5.50	K	0.00	[illegible]

TO-252

/ Marking Instructions



BR

15N10

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Note:

BR:	Company Code
15N10:	Product Type.
****:	Lot No. Code, code change with Lot No.