TO-252 N

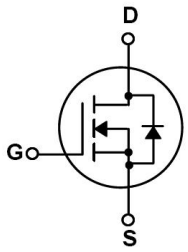
N-CHANNEL MOSFET in a TO-252 Plastic Package.

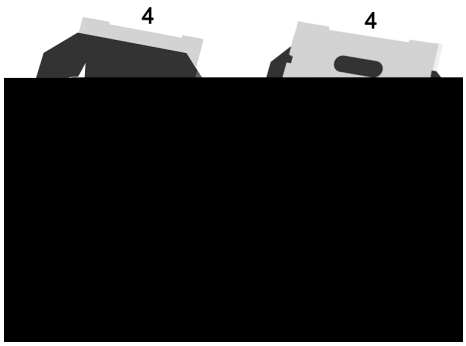
$R_{DS(on)}$ C_{rss} AEC-Q101

Low $R_{DS(on)}$,low gate charge, low C_{rss}, fast switching, Qualified to AEC-Q101 Standards for High Reliability, HF 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, Meet the stringent requirements of automotive applications.





PIN1 G PIN 2 D PIN 3 S PIN 4 D

See Marking Instructions.

Parameter		Symbol	Rating	Unit
Drain-Source Voltage		V_{DSS}	40	V
Drain Current		I_D(Tc=25)	150	A
Drain Current - Pulsed		I_{DM}	304	A
Gate-Source Voltage		V_{GS}	± 20	V
Avalanche Current		I_{AS}	33	A
Single Pulsed Avalanche Energy(L=0.5mH)		E_{AS}	435	mJ
Power Dissipation		P_D(Tc=25)	120	W
Junction and Storage Temperature Range		T_J, T_{STG}	-55 to 150	
Thermal Resistance-Junction to Ambient	t ≤ 10s	$R_{\theta JA}$	20	/W
	Steady-State		50	
Thermal Resistance-Junction to Case	Steady-State	$R_{\theta JC}$	1.04	

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	V_{GS}=0V I_D=250εA	40			V
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=250εA	1.0	1.7	2.5	V

Static Drain-Source

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit

Tu.0037 Twp4 3ditions

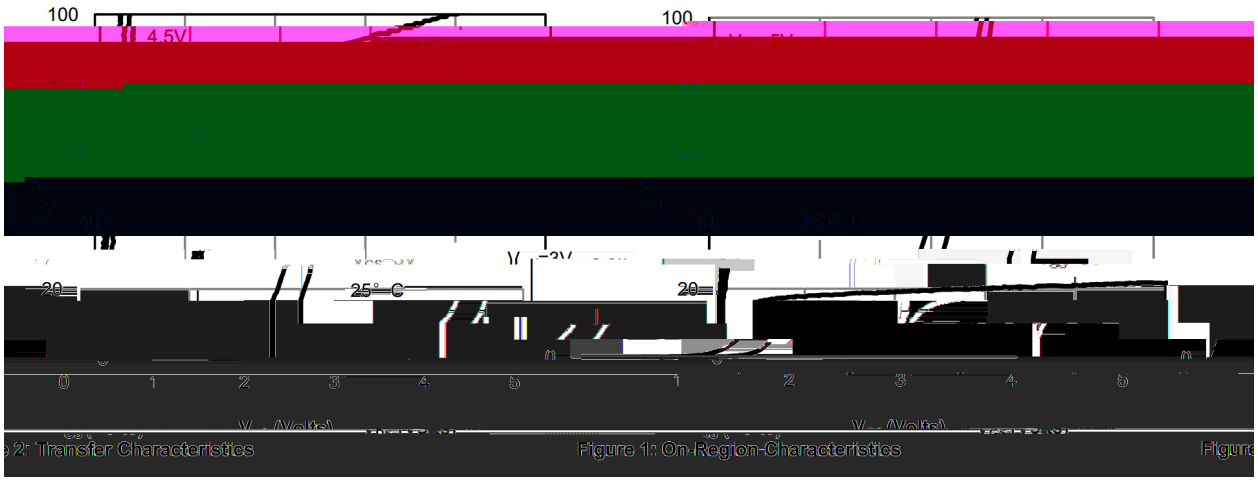
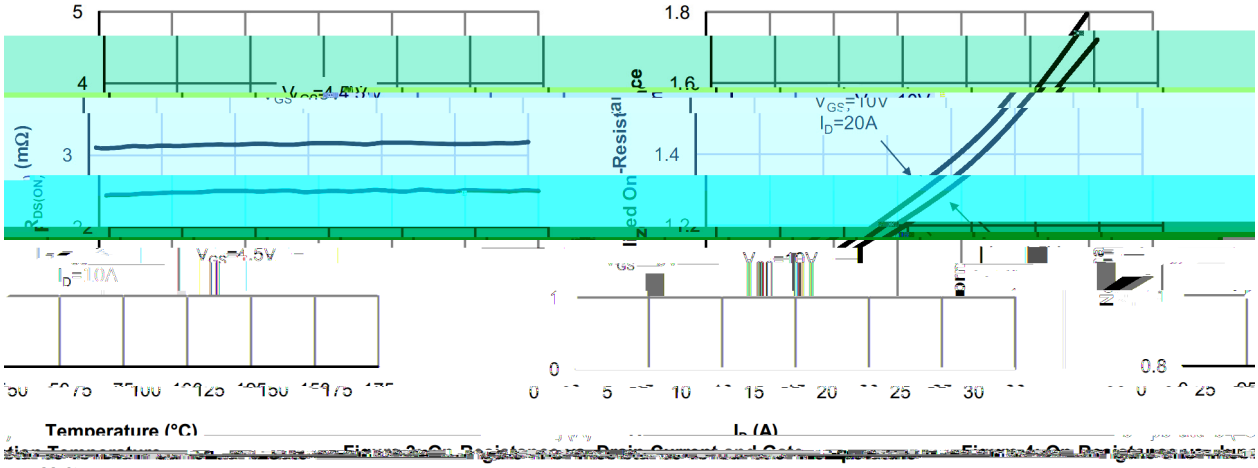


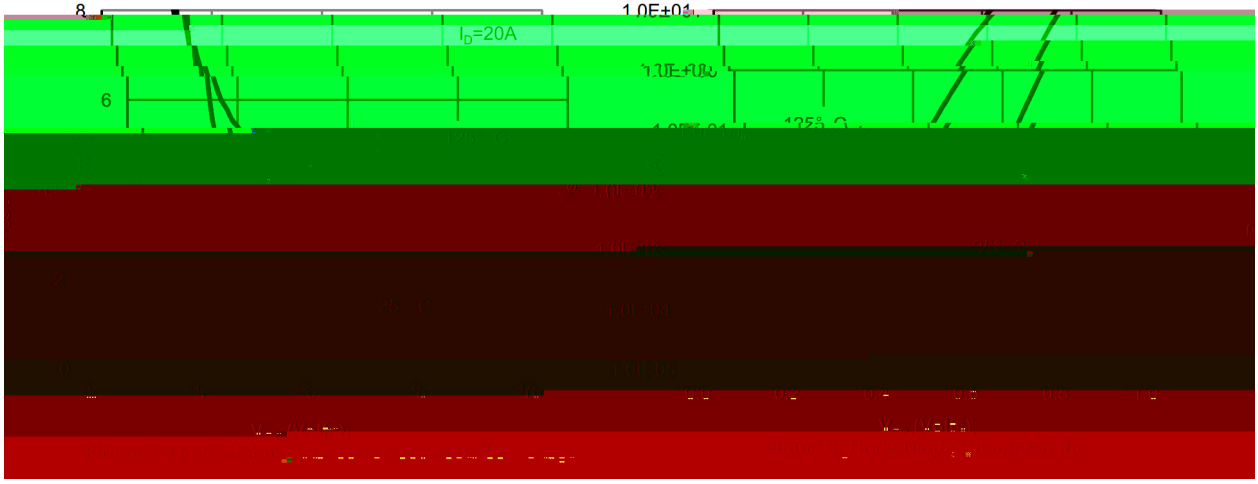
Figure 2: Transfer Characteristics

Figure 1: On-Region Characteristics

Figure



Voltage



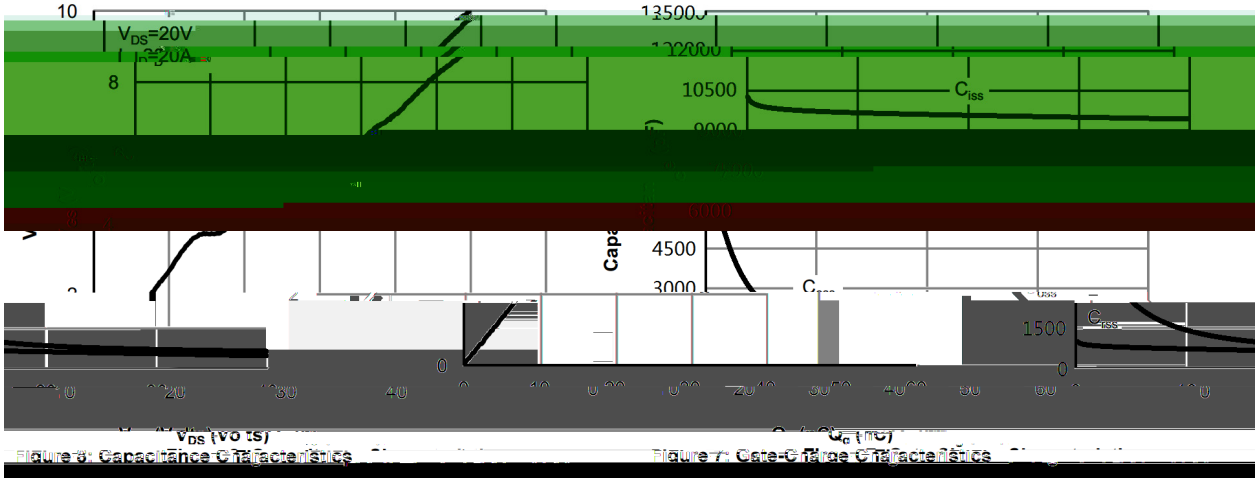


Figure 8: Capacitance Characteristics

Figure 7: Gate-Charge Characteristics

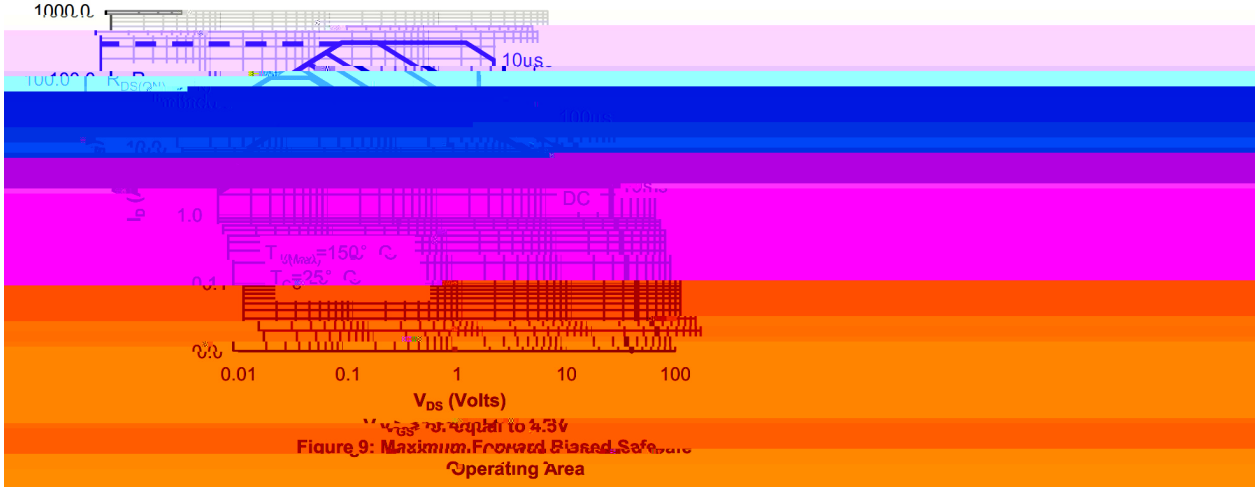


Figure 9: Maximum Forward Biased Safe Operating Area

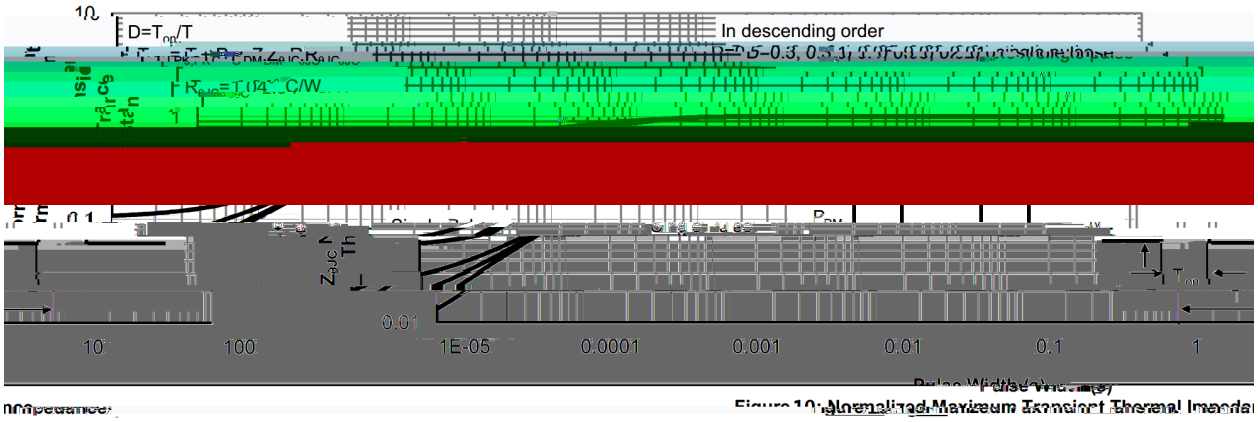
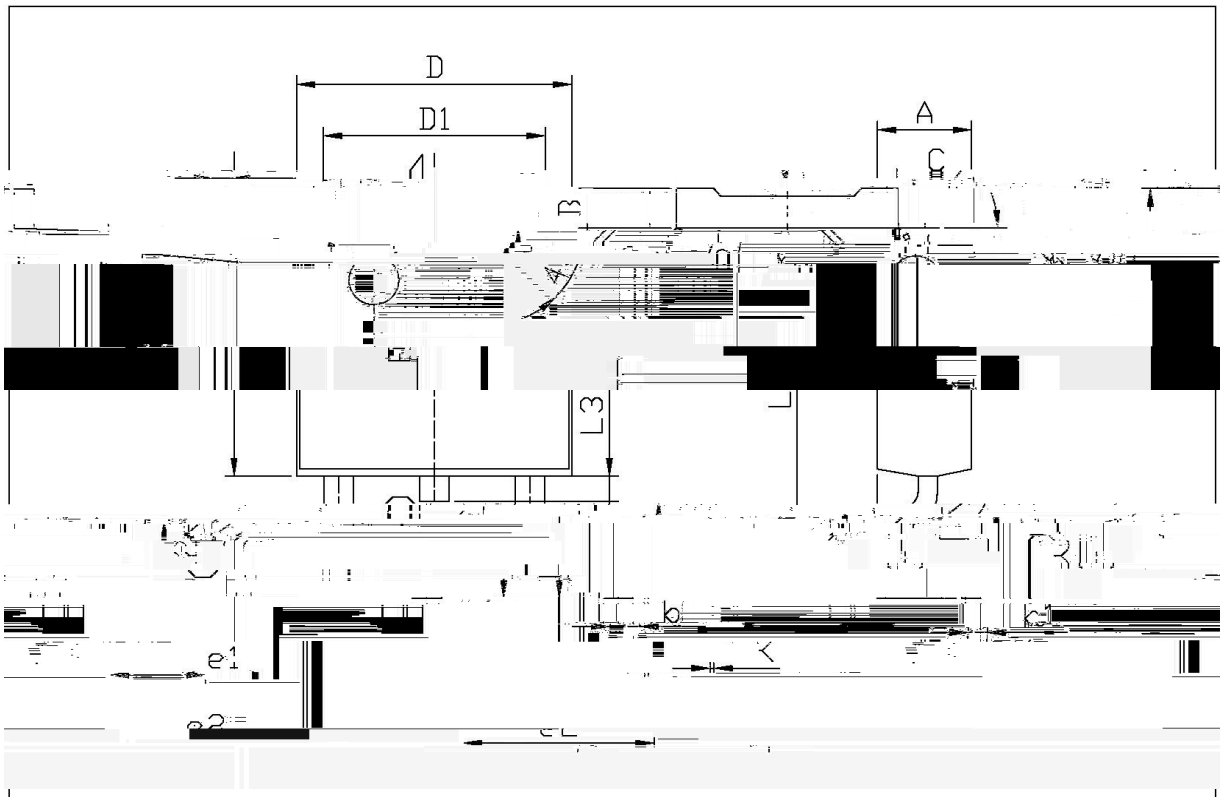


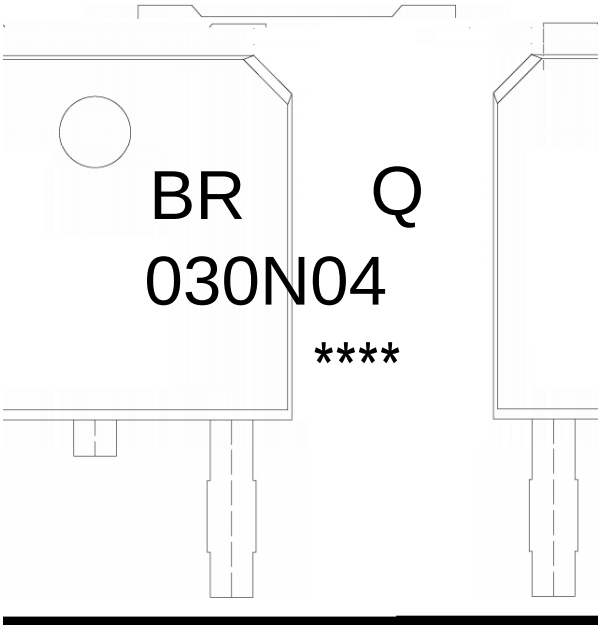
Figure 10: Normalized Maximum Transient Thermal Impedance



单位：mm

Symbol	Dimensions In Millimeters		Symbol	Dimensions In Millimeters	
	Min	Max		Min	Max
A	2.20	2.40	e	2.24	2.34
B	0.95	1.25	e1	4.42	4.72
b	0.70	0.90	e2	1.88	2.08
b1	0.45	0.55	H	9.85	10.35
C	0.45	0.55	L	1.38	1.78
c1	0.40	0.60	L1	2.70	3.10
D	6.45	6.75	L2	1.00	1.40
D1	5.10	5.50	L3	0.60	1.00
E	6.00	6.20	θ	0°	8°
E1	5.20	5.40			

TO-252



BR

Q

030N04

****

Note:

BR:	Company Code
Q:	Automobile halogen-free product Code
030N04:	Product Type Code
****:	Lot No. Code, code change with Lot No

Temperature Profile for IR Reflow Soldering(Pb-Free)



Note:

1	150	200	60	120sec;	1.Preheating:150~200 , Time:60~120sec.
2	255±5		5±0.5sec;		2.Peak Temp.:255±5 , Duration:5±0.5sec.
3	2	10	/sec.		3. Cooling Speed: 2~10 /sec.

260±5	10±1 sec.	Temp.:260±5	Time:10±1 sec

/ REEL