TO-252 N MOS

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

V_{DS}=60V ; I_D=20A

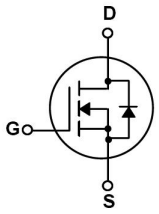
R_{DSON}@10V≤37mΩ(Type.25mΩ)

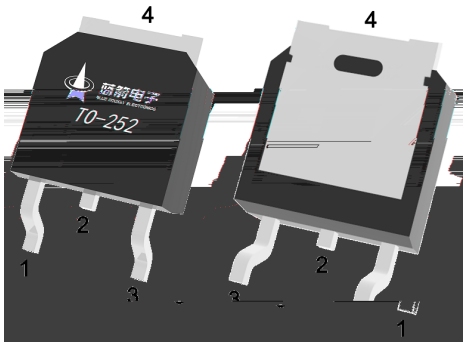
R_{DSON}@4.5V≤42mΩ(Type.30mΩ)

AEC-Q101 Qualified to AEC-Q101 Standards for High Reliability, HF Product.

LED

Boost converters and synchronous rectifiers for consumer, telecom, industrial power supplies and LED backlighting, 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}	60	V
Drain Current	I_D(Tc=25)	20	A
Drain Current - Pulsed	I_{DM}	47	A
Gate-Source Voltage	V_{GS}	±20	V
Avalanche energy(L=0.5mH)	E_{AS}	58	mJ
Avalanche Current(L=0.5mH)	I_{AS}	13	A
Power Dissipation	P_D(Tc=25)	33.6	W
Operating and Storage Temperature Range	T_J,T_{STG}	-55 to 150	
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	65	/W
Thermal Resistance, Junction to Case	$R_{\theta JC}$	3.7	/W

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	[redacted]$_{DSS}$	[redacted]$_S$=60V	V_{GS}=0V	[redacted]		1	μA
Gate-Body Leakage Current Forward	I_{GSS}	V_{GS}=±20V	V_{DS}				

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Turn-On Delay Time	$t_{d(on)}$	V_{GS}=10V V_{DS}=30V R_L=2.5Ω R_{GEN}=3.0Ω		4.2		ns
Turn-On Rise Time	t_r			3.4		
Turn-Off Delay Time	$t_{d(off)}$			16		
Turn-Off Fall Time	t_f			2		

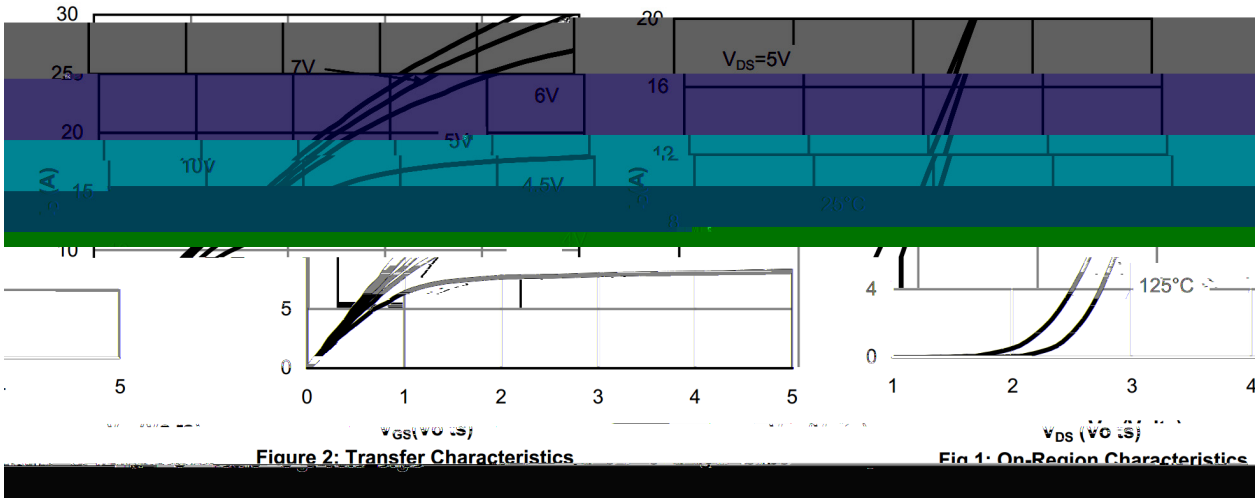


Figure 2: Transfer Characteristics

Fig 1: On-Region Characteristics

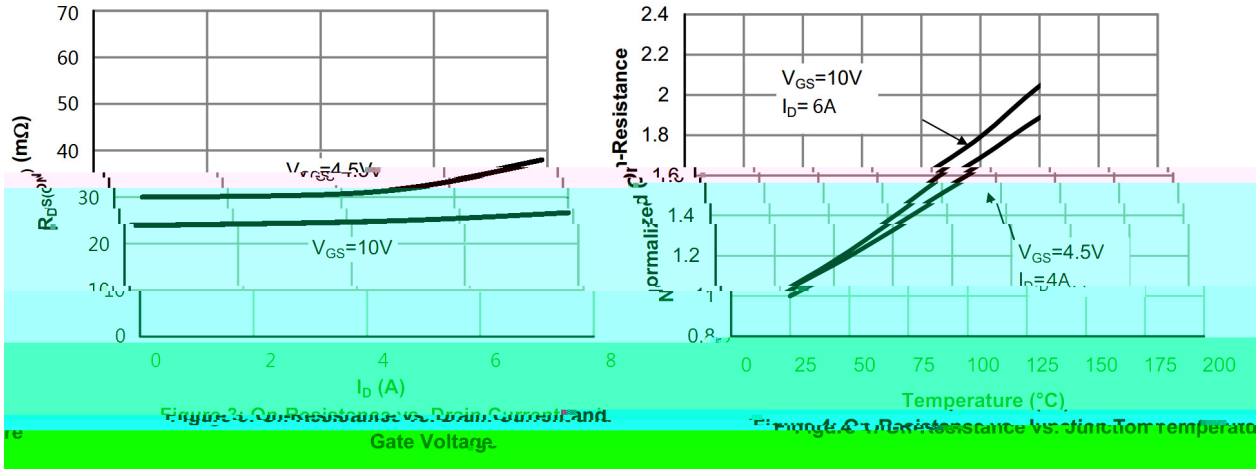


Figure 3: On-Resistance vs. Drain Current and Gate Voltage

Figure 4: On-Resistance vs. Junction Temperature

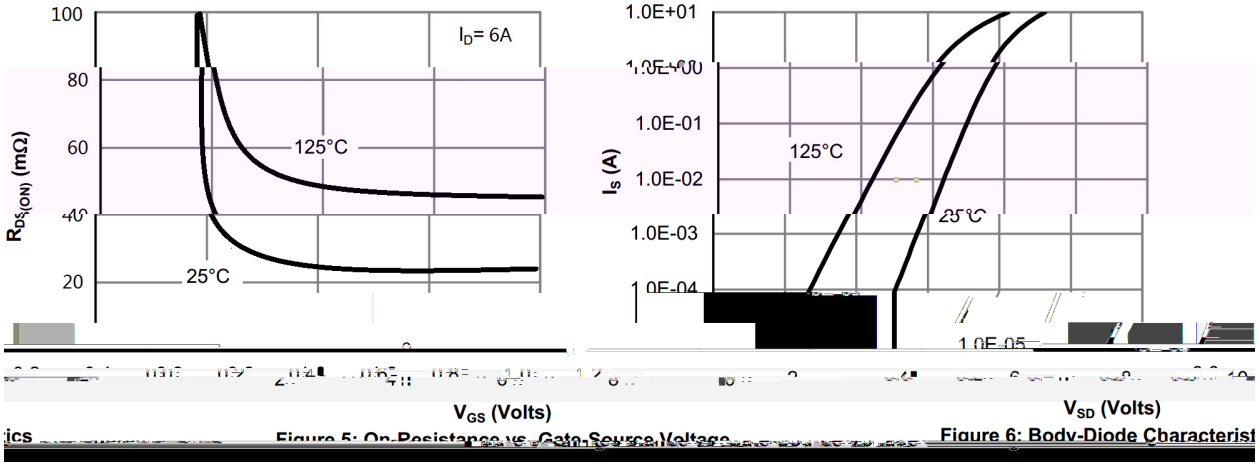


Figure 5: On-Resistance vs. Gate-Source Voltage

Figure 6: Body-Diode Characteristics

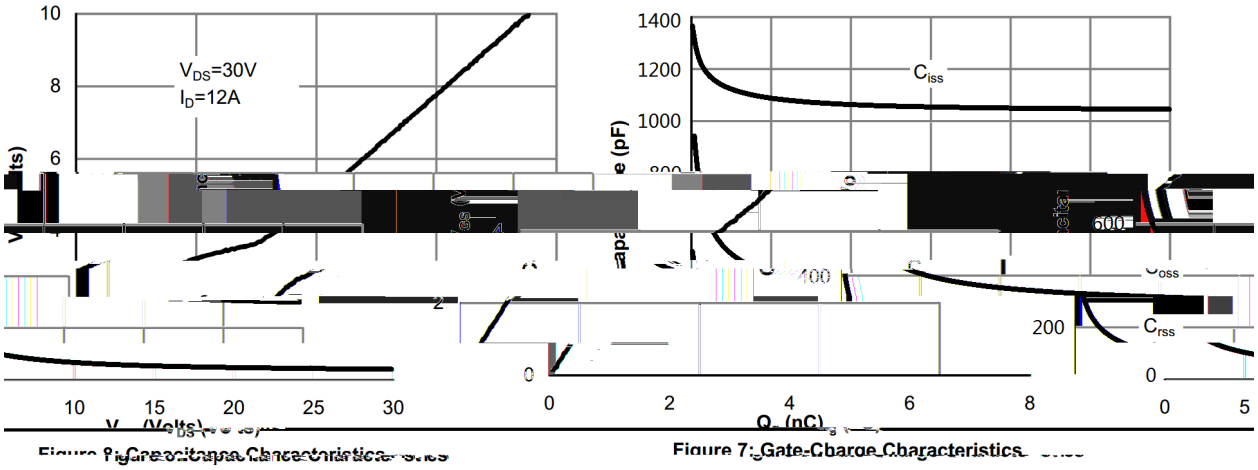


Figure 7: Gate-Charge Characteristics

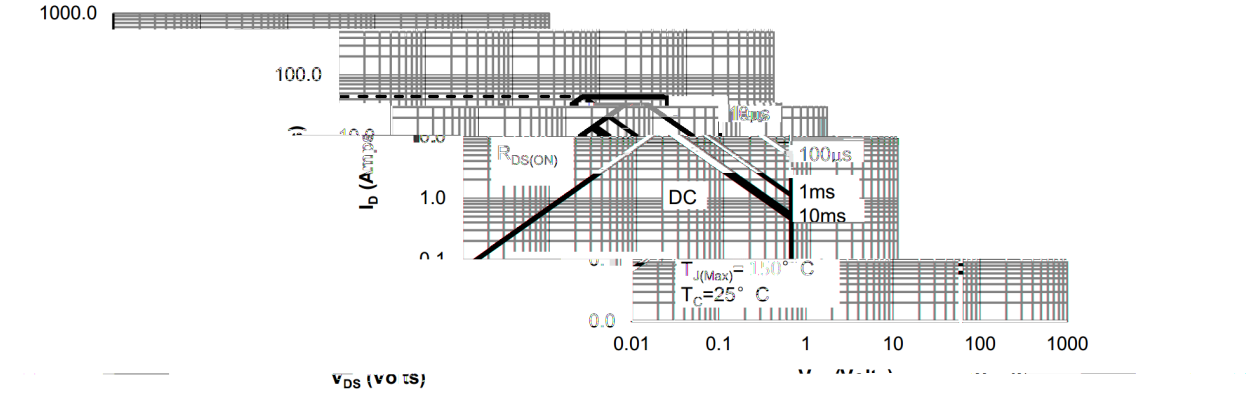


Figure 9: Maximum Forward Biased Safe Operating Area

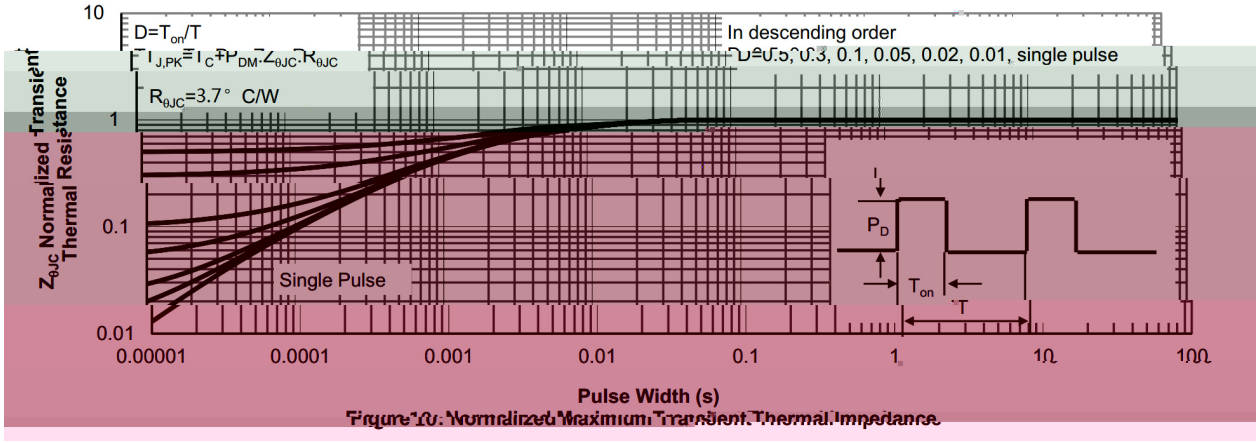
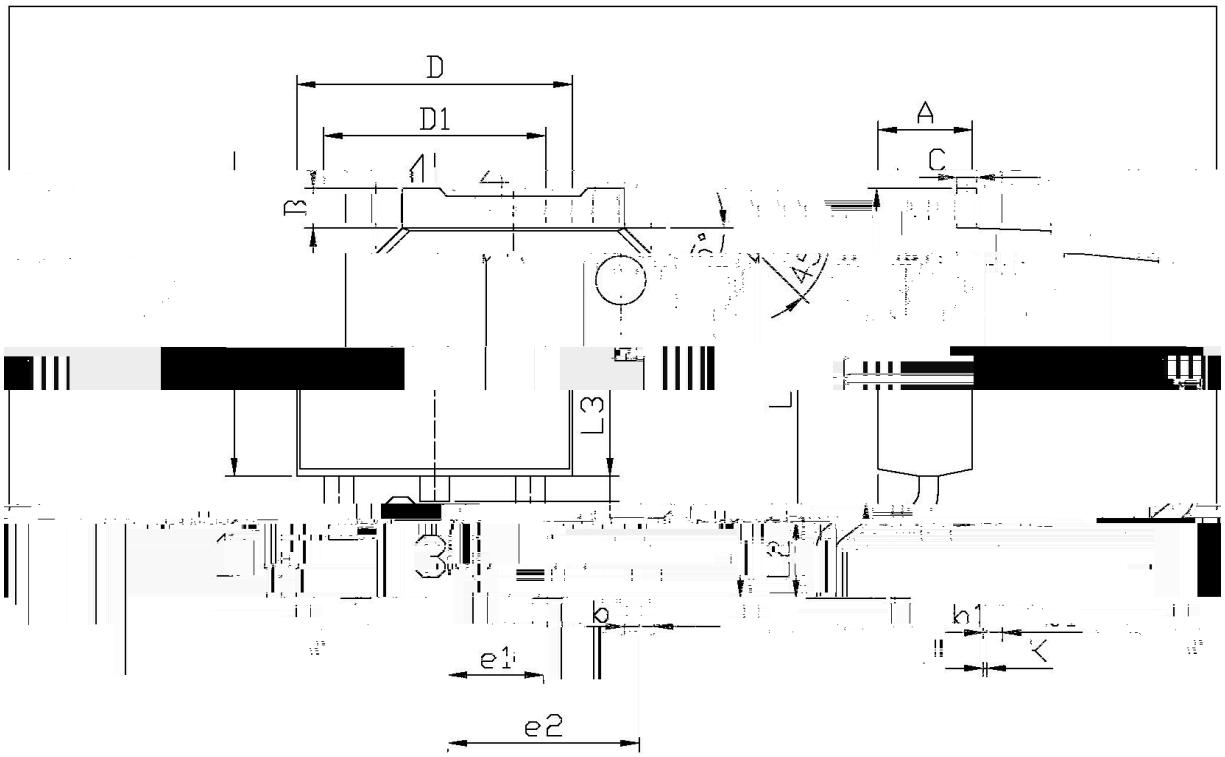


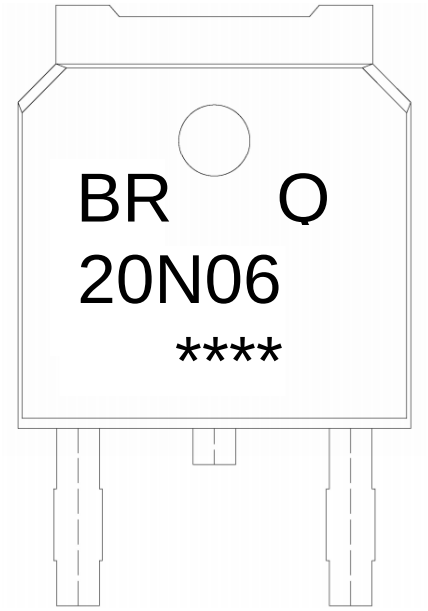
Figure 10: Normalized Maximum Transient Thermal Impedance



单位：mm

Symbol	Dimensions In Millimeters		Symbol	Dimensions In Millimeters	
	Min	Max.		Min	Max
.95	6.25	A	2.20	2.40	E 5
.24	2.34	B	0.95	1.25	e1 2
[illegible]	4.73	b	0.70	0.90	h
L1	9.85	10.35	b1	0.45	0.55
C	0.45	0.55	L2	1.70	2.90
L3	0.60	0.90	D	6.45	6.75
0.500	K	0.000	0.100	M	0.100

TO-252



BR

Q

20N06

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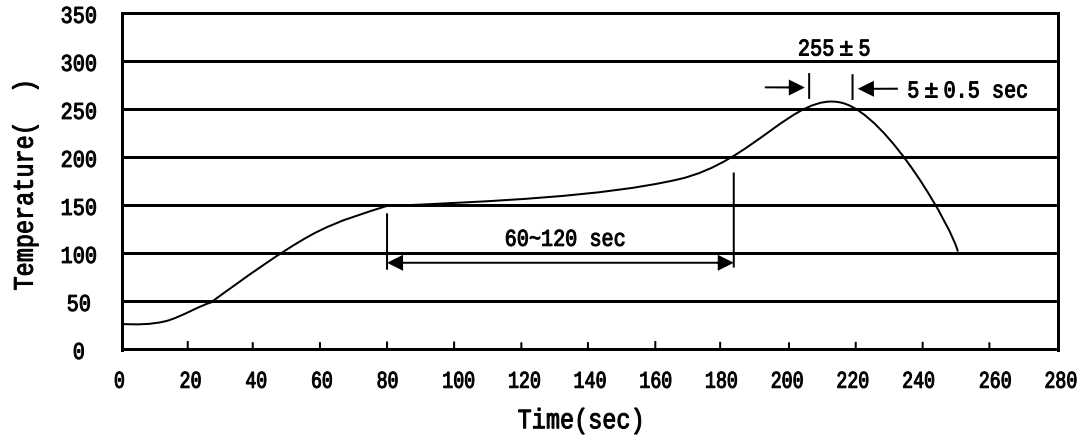
Note:

BR:	Company Code
Q:	Automobile halogen-free product Code
20N06:	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

Package Type	Units					Dimension		(unit mm³)
TO-252	2,500	2	5,000	6	30,000	13 ×16	360×360×50	380×335×366

/ TUBE

Package Type	Units					Dimension		(unit mm³)
TO-251/252	75	48	3,600	5	18,000	526×20.5×5.25	555×164×50	575×290×180