


 / Absolute Maximum Ratings($T_a=25^\circ\text{C}$)

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	-40	V
Gate-Source Voltage	V_{GS}	± 20	V
Continuous Drain Current	$I_D (T_a=25^\circ\text{C})$	-10	A
Continuous Drain Current	$I_D (T_a=70^\circ\text{C})$	-8	A
Power Dissipation for Single Operation	$P_D (T_a=25^\circ\text{C})$	1.7	W
Power Dissipation for Single Operation	$P_D (T_a=70^\circ\text{C})$	1.1	W
Maximum Junction Temperature	T_j	150	
Storage Temperature Range	T_{stg}	-55 ~ 150	
Thermal Resistance-Junction to Ambient	$R_{\theta JA} \text{ } \epsilon \text{ } t \text{ } 10s \text{ } \zeta$	40	/W
Thermal Resistance-Junction to Ambient	$R_{\theta JA}$	75	/W
Maximum Junction-to-Lead	$R_{\theta JL}$	24	/W

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV _{DSS}	I _D =-250μA V _{GS} =0V	-40			V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =-40V V _{GS} =0V			-1.0	μA
		V _{DS} =-40V V _{GS} =0V T _J =55°C			-5.0	
Gate-Body leakage current	I _{GSS}	V _{DS} =0V V _{GS} =±20V			±100	nA
Gate Threshold Voltage	V _{GS(th)}	V _{DS} =V _{GS} I _D =-250μA	-1.2	-1.6	-2.5	V
Static Drain-Source On-Resistance	R _{DS(on)}	V _{GS} =-10V I _D =-10A		13.1	15	mΩ
		V _{GS} =-4.5V I _D =-7A		18	21	
Forward Transconductance	g _{FS}	V _{DS} =-5V I _D =-10A		9.5		S
Diode Forward Voltage	V _{SD}	I _S =-1A V _{GS} =0V		-0.8	-1.0	V
Total Gate Charge	Q _g (10V)	V _{GS} =-10V V _{DS} =-20V I _D =-10A		42	55	nC
Total Gate Charge	Q _g (4.5V)			18.6		
Gate-Source Charge	Q _{gs}			7		
Gate-Drain Charge	Q _{gd}			8.6		

Gate Resistance

R_g

V_{GS}=0V I_D=-10A V_{DS}=-20V T_J=55°C

Gate-Source Transconductance

g_{FS}

V_{DS}=-5V I_D=-10A

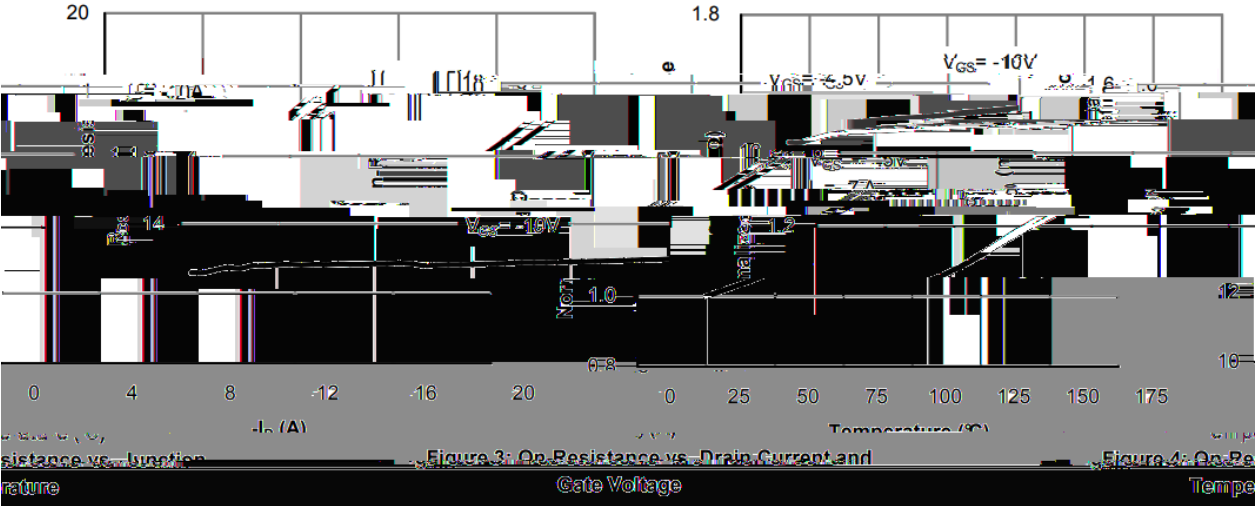
Gate-Drain Transconductance

g_{FD}

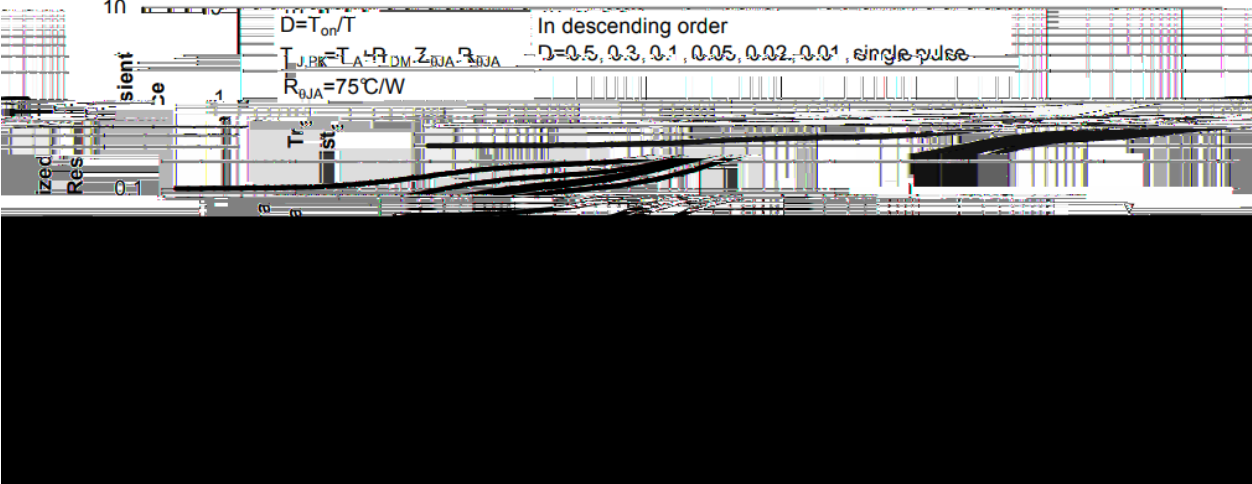
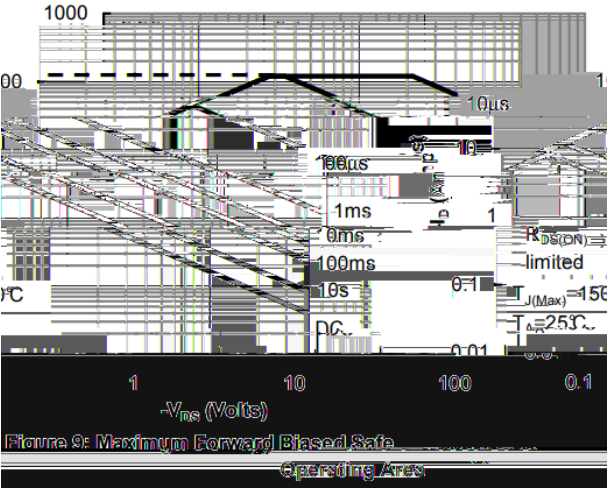
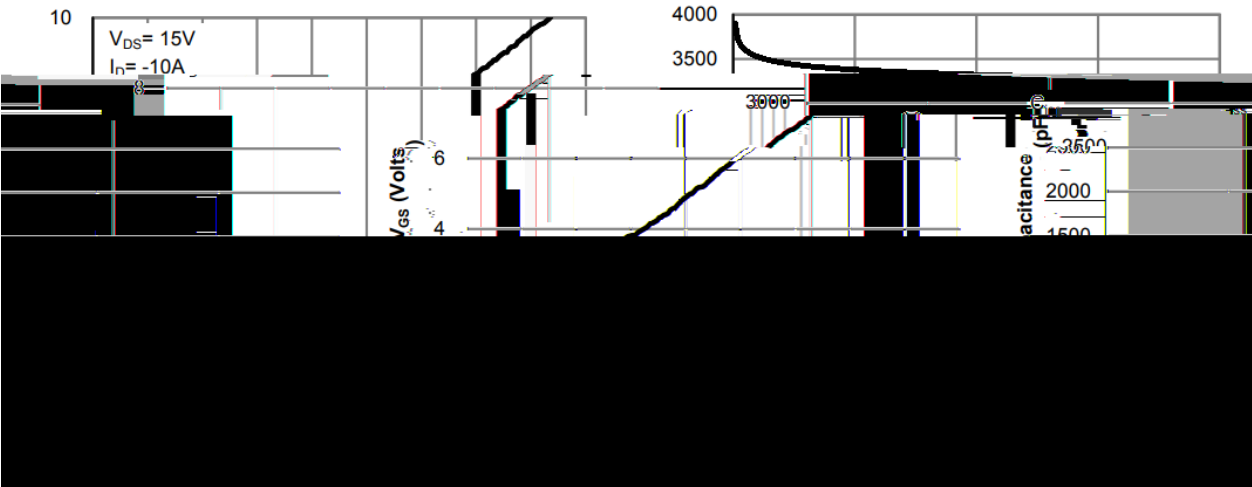
V_{GS}=-10V V_{DS}=-20V I_D=-10A

Diode

/ Electrical Characteristic Curve



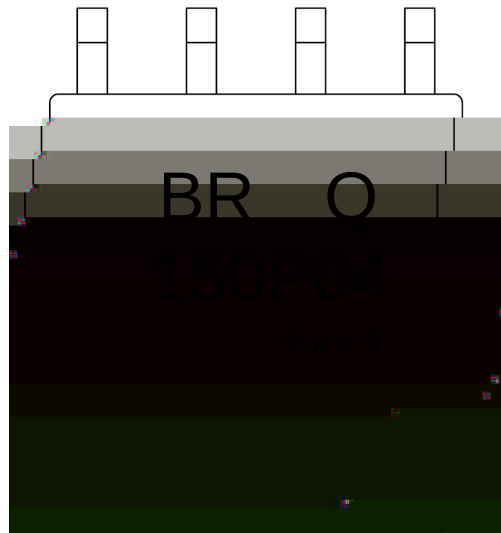
/ Electrical Characteristic Curve



/ Package Dimensions



/ Marking Instructions



BR N
Q
150P04 N
**** 1 N 1 N

Note:

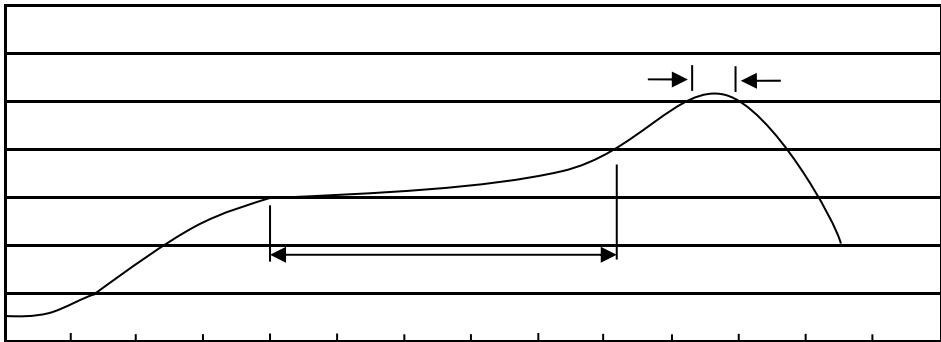
BR: Company Code

Q: Automobile halogen-free product Code

150P04: 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

Δ 5±0.5sec;

2.Peak Temp.:255±5 , Duration:5±0.5sec.
- 3

γ

2 10 /sec.

3. Cooling Speed: 2~10 /sec.

/ Resistance to Soldering Heat Test Conditions

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

/ Packaging SPEC.

/ REEL

Package Type	Units					Dimension (unit mm ³)		
	Units/Reel /	Reels/Inner Box /	Units/Inner Box /	Inner Boxes/Outer Box /	Units/Outer Box /	Reel	Inner Box	Outer Box
SOP/ESOP-8	4,000	2	8,000	6	48,000	13 ×12	360×360×50	380×335×366

/ Notices