


/ Absolute Maximum Ratings(Ta=25)

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DSS}	-40	V
Gate-Source Voltage	V_{GSS}	± 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	$P_D (T_a=25)$	1.7	W
Power Dissipation for Single Operation	$P_D (T_a=70)$	1.1	W
Maximum Junction Temperature	T_j	150	
Storage Temperature Range	T_{stg}	-55 150	
Thermal Resistance-Junction to Ambient	$R_{\theta JA} \text{ } \varepsilon \text{ } t \text{ } 10s \text{ } \zeta$	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

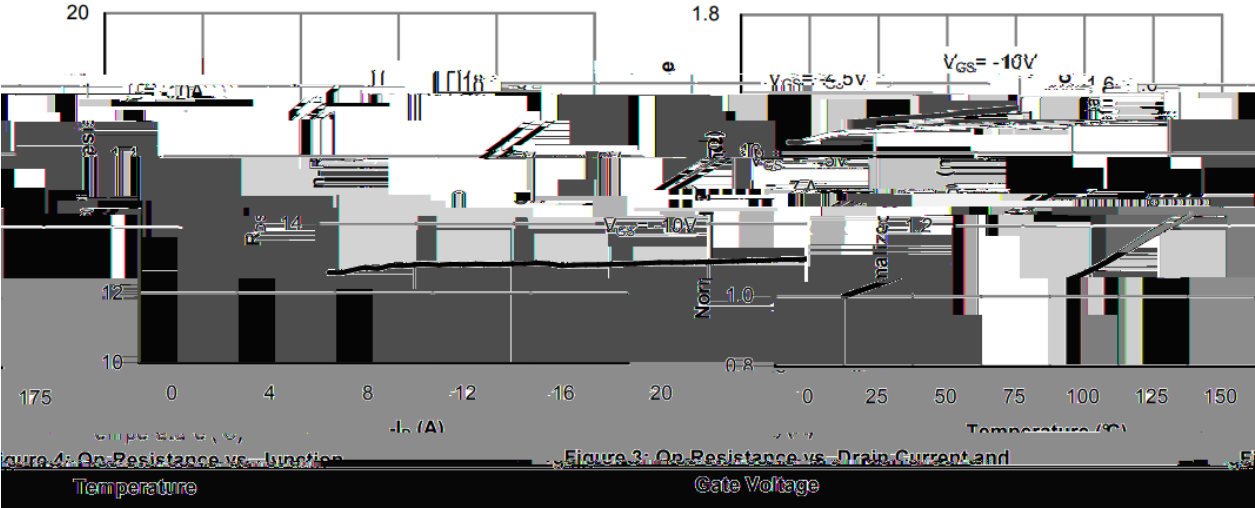
R_g

V_{GS}=0V I_D=-10A V_{DS}=-20V

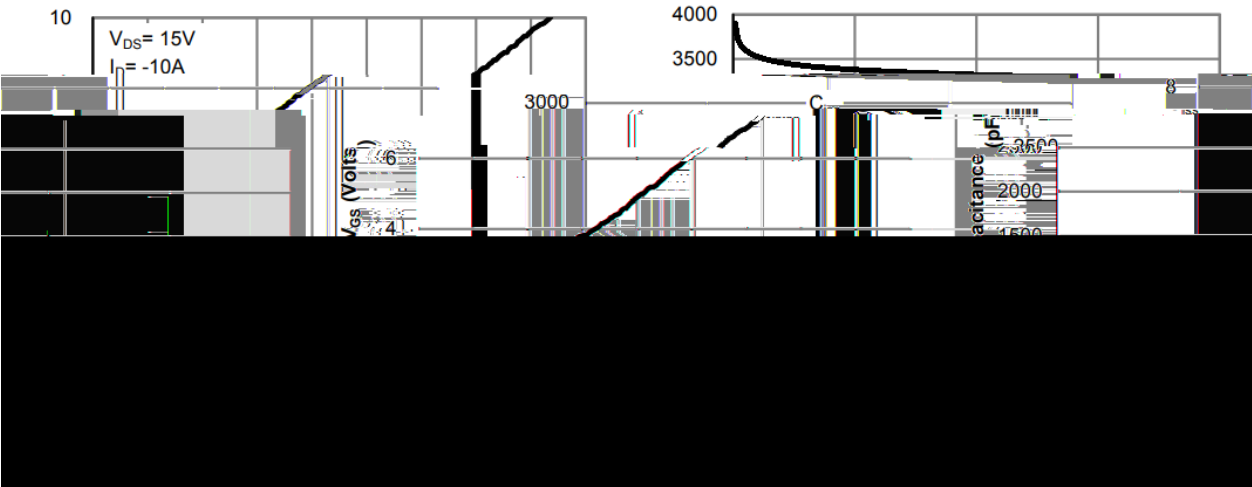
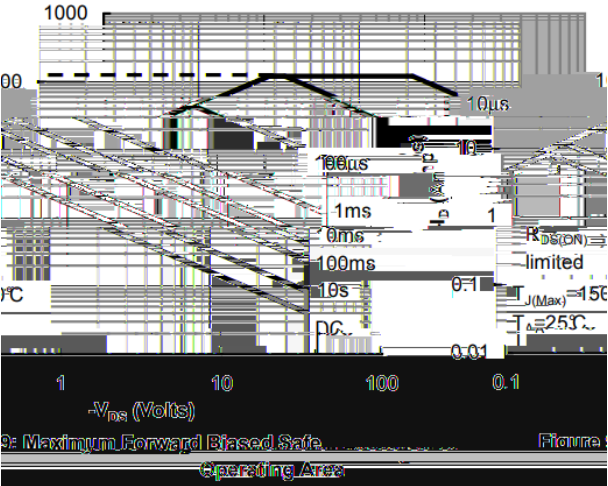
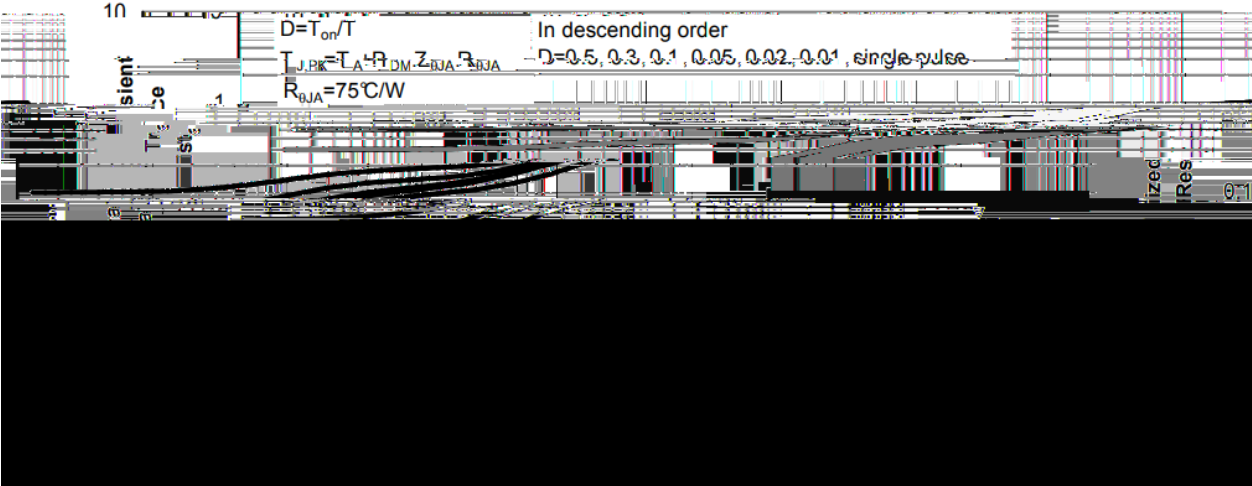
4400000025 Tc(GS)Tj8 0 V

μ Diode

/ Electrical Characteristic Curve

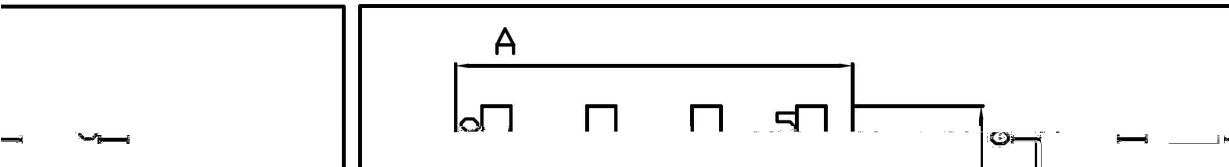
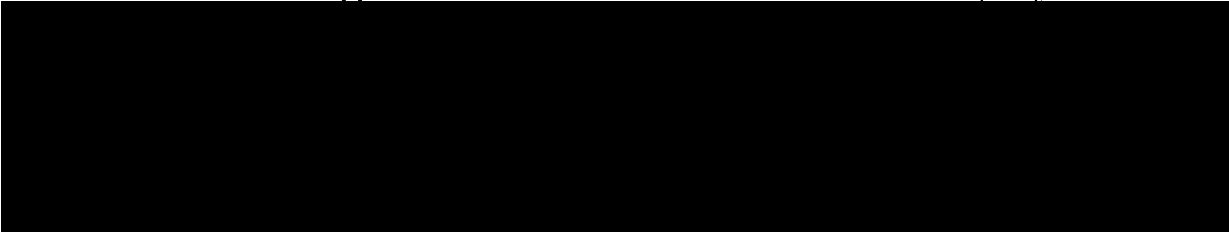
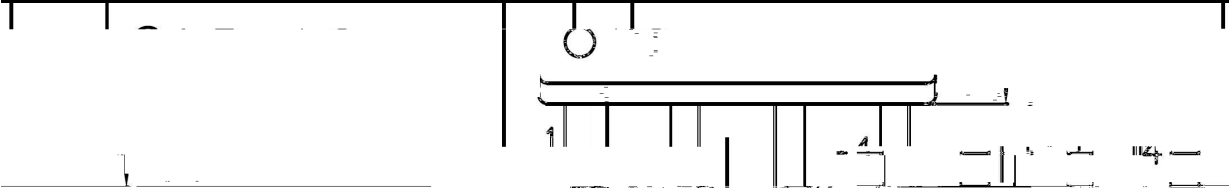
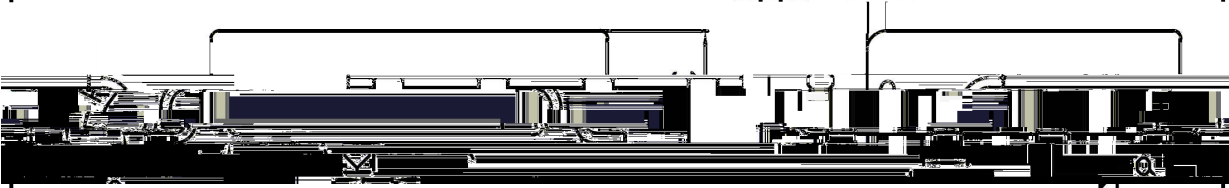


/ Electrical Characteristic Curve



/ Package Dimensions

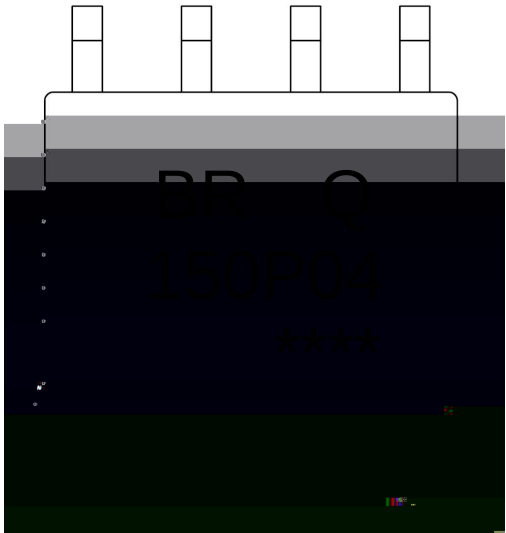
Symbol Dimensions in Millimeters



Symbol	Dimensions in Millimeters	Symbol	Dimensions in Millimeters
A	47.0	C	1.25
B	17.0	D	1.75
E	1.75	F	1.75
G	1.75	H	1.75
I	1.75	J	1.75
K	1.75	L	1.75
M	1.75	N	1.75
O	1.75	P	1.75
Q	1.75	R	1.75
S	1.75	T	1.75
U	1.75	V	1.75
W	1.75	X	1.75
Y	1.75	Z	1.75



/ Marking Instructions



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

Note:

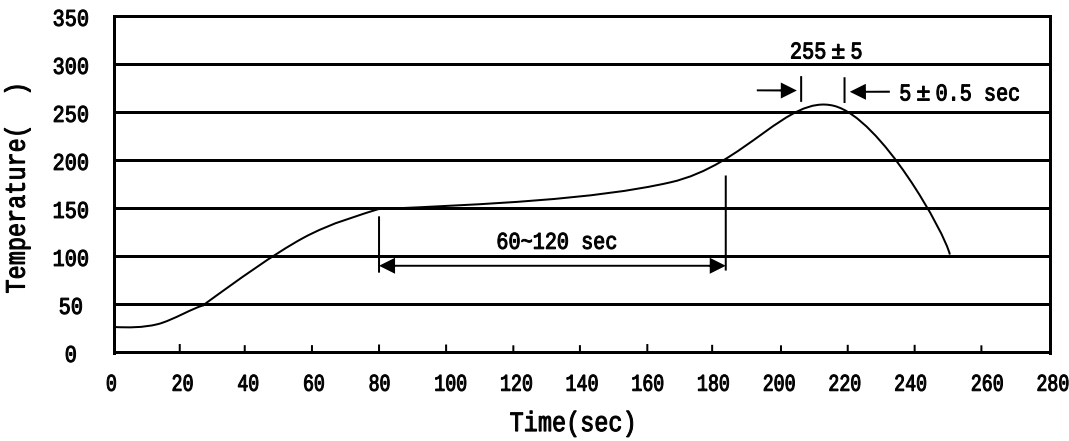
BR: Company Code

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

/ Resistance to Soldering Heat Test Conditions

260±5 °C, 10±1 sec. Temp.: 260±5 °C 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