

/ Absolute Maximum Ratings(Ta=25)

Parameter		Symbol	Rating	Unit
Drain-Source Voltage		V_{DSS}	80	V
Drain Current		$I_D(T_C=25^{\circ}C)$	132	A
Pulsed Drain Current		I_{DM}	276	A
Gate-Source Voltage		V_{GS}	± 20	V
Single Pulsed Avalanche Energy(L=0.5mH)		E_{AS}	940.8	mJ
Avalanche Current		I_{AS}	42	A
Total Power Dissipation		$P_D(T_C=25^{\circ}C)$	173.6	W
Junction and Storage Temperature Range		T_J, T_{STG}	-55 to 150	
Thermal Resistance-Junction to Ambient	$t \leq 10s$	$R_{\theta JA}$	15	$\frac{^{\circ}C}{W}$
	Steady-State		62	
Thermal Resistance-Junction to Case	Steady-State	$R_{\theta JC}$	0.72	

/ Electrical Characteristics(Ta=25)

Parameter	Symbol	Test Conditions		Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	$V_{GS}=0V$	$I_D=250\mu A$	80	95		V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=85V$	$V_{GS}=0V$			1	μA
Gate-Body Leakage Current Forward	I_{GSS}	$V_{GS}=\pm 20V$	$V_{DS}=0V$			± 100	nA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$	$I_D=250\mu A$	2	3	4	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=10V$	$I_D=20A$		4.3	5.5	m Ω
	$R_{DS(on)}$	$V_{GS}=6V$	$I_D=10A$		5.8	9	
Forward On Voltage	V_{SD}	$V_{GS}=0V$	$I_S=1A$			1.2	V
Gate resistance	R_g	$f=1MHz$			1.85		Ω
Input Capacitance	C_{iss}	$V_{DS}=25V$ $f=1MHz$	$V_{GS}=0V$		4130		pF
Output Capacitance	C_{oss}				1640		
Reverse Transfer Capacitance	C_{rss}				220		
Total Gate Charge	$Q_{g(10V)}$	$V_{GS}=10V,$ $I_D=20A$	$V_{DS}=40V,$		62		nC
Gate Source Charge	Q_{gs}				20		
Gate Drain Charge	Q_{gd}				23		

/ Electrical Characteristics(Ta=25)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Turn-On Delay Time	$t_{d(on)}$	$V_{GS}=10V$ $V_{DS}=40V$ $R_L=2\Omega$ $R_{GEN}=3\Omega$		23		ns
Turn-On Rise Time	t_r			32		
Turn-Off Delay Time	$t_{d(off)}$			35		
Turn-Off Fall Time	t_f			27		

Electrical Characteristic Curve

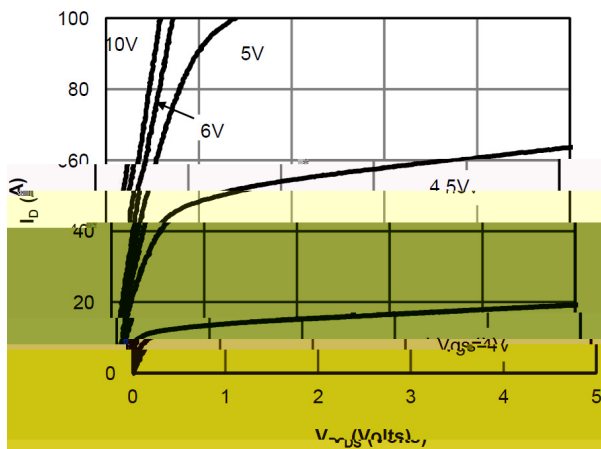


Fig 1: On-Region Characteristics

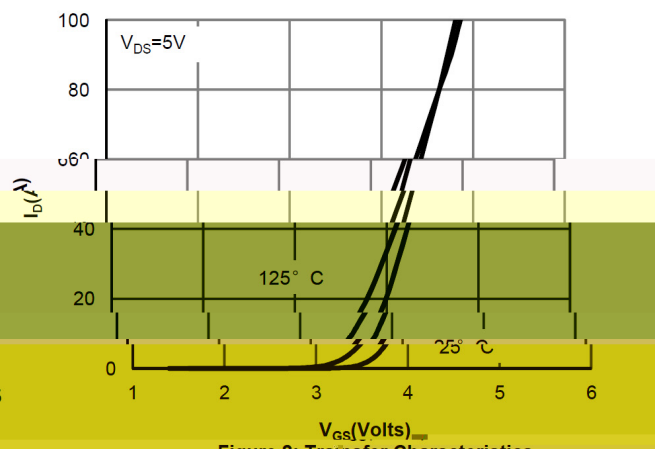


Figure 2: Transfer Characteristics

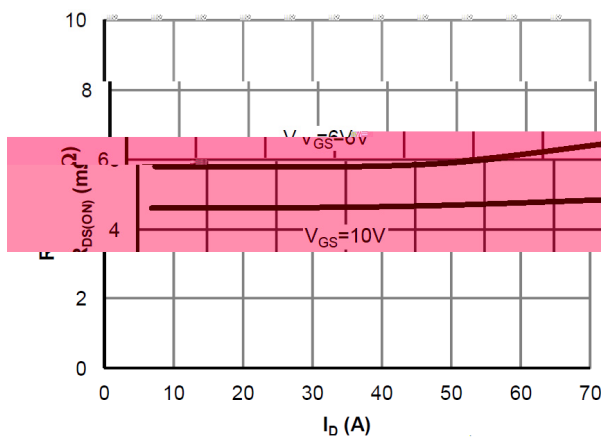


Figure 3: On-Resistance vs. Drain Current and Gate Voltage

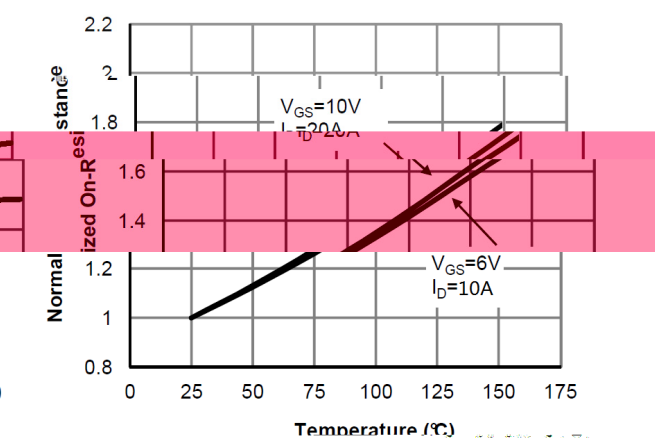


Figure 4: On-Resistance vs. Junction Temperature

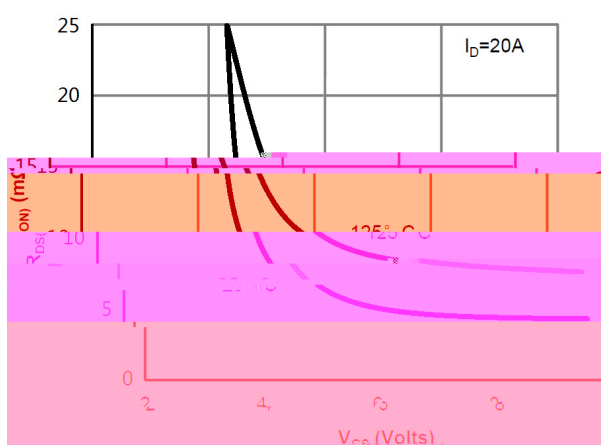


Figure 5: On-Resistance vs. Gate-Source Voltage

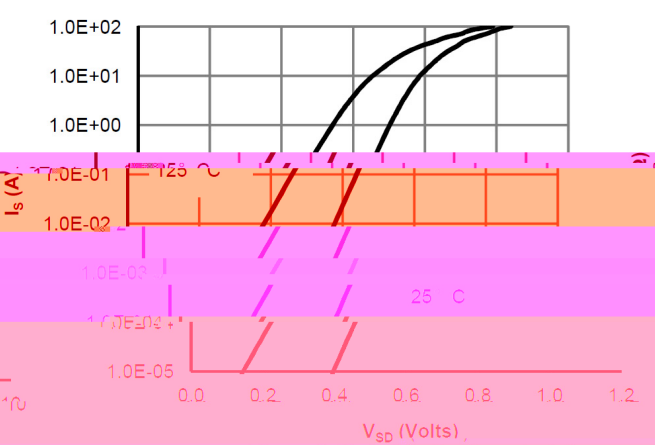


Figure 6: On-Resistance vs. Drain-Source Voltage



Electrical Characteristic Curve

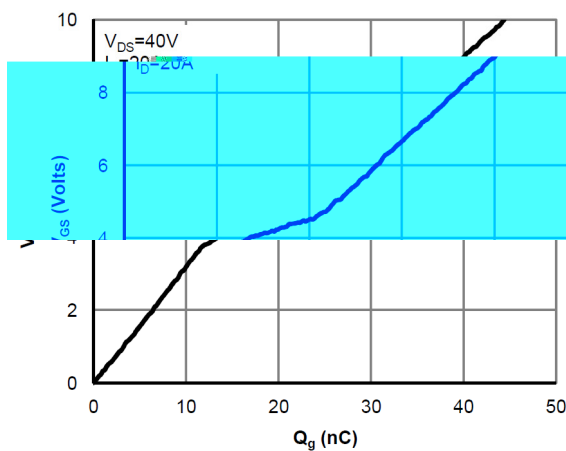


Figure 7: Gate-Charge Characteristics

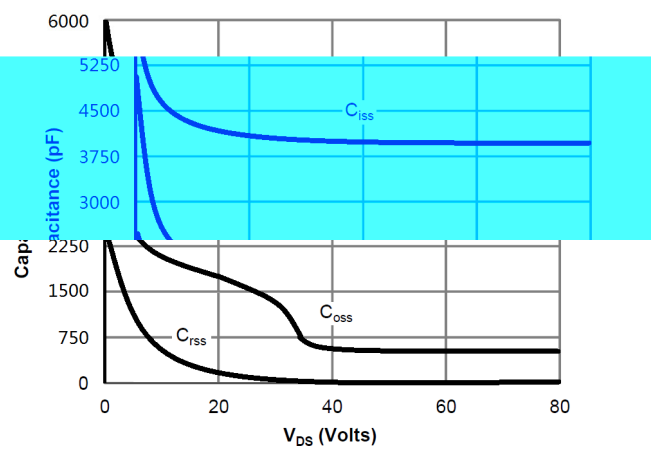


Figure 8: Capacitance Characteristics

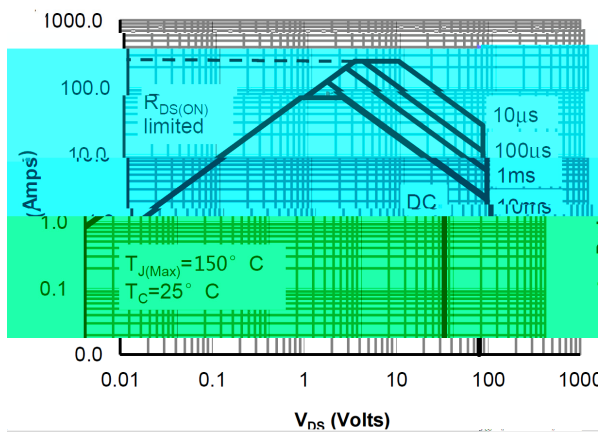


Figure 9: Maximum Drain Current vs VDS (Volts)

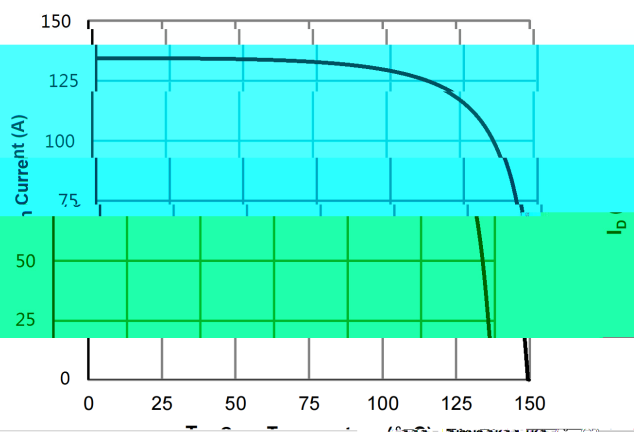


Figure 10: Maximum Continuous Drain Current vs Case Temperature

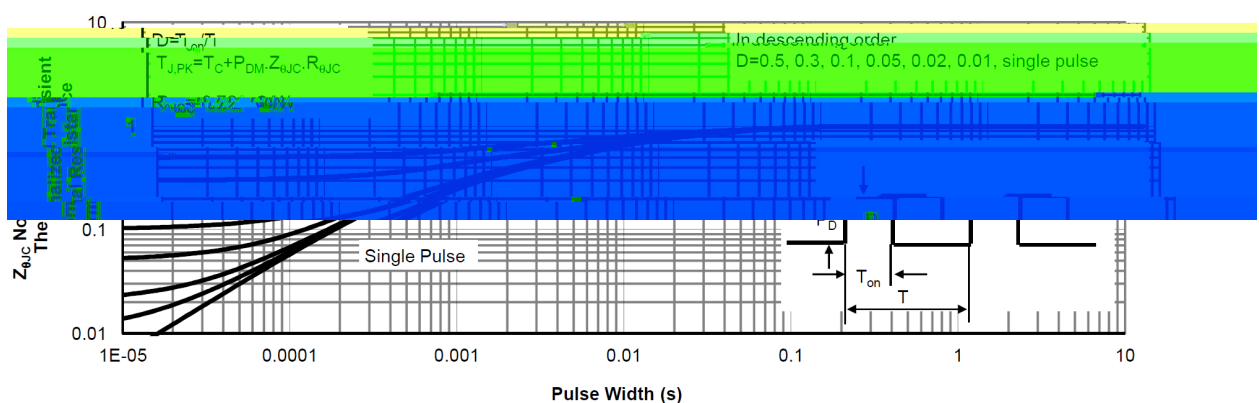
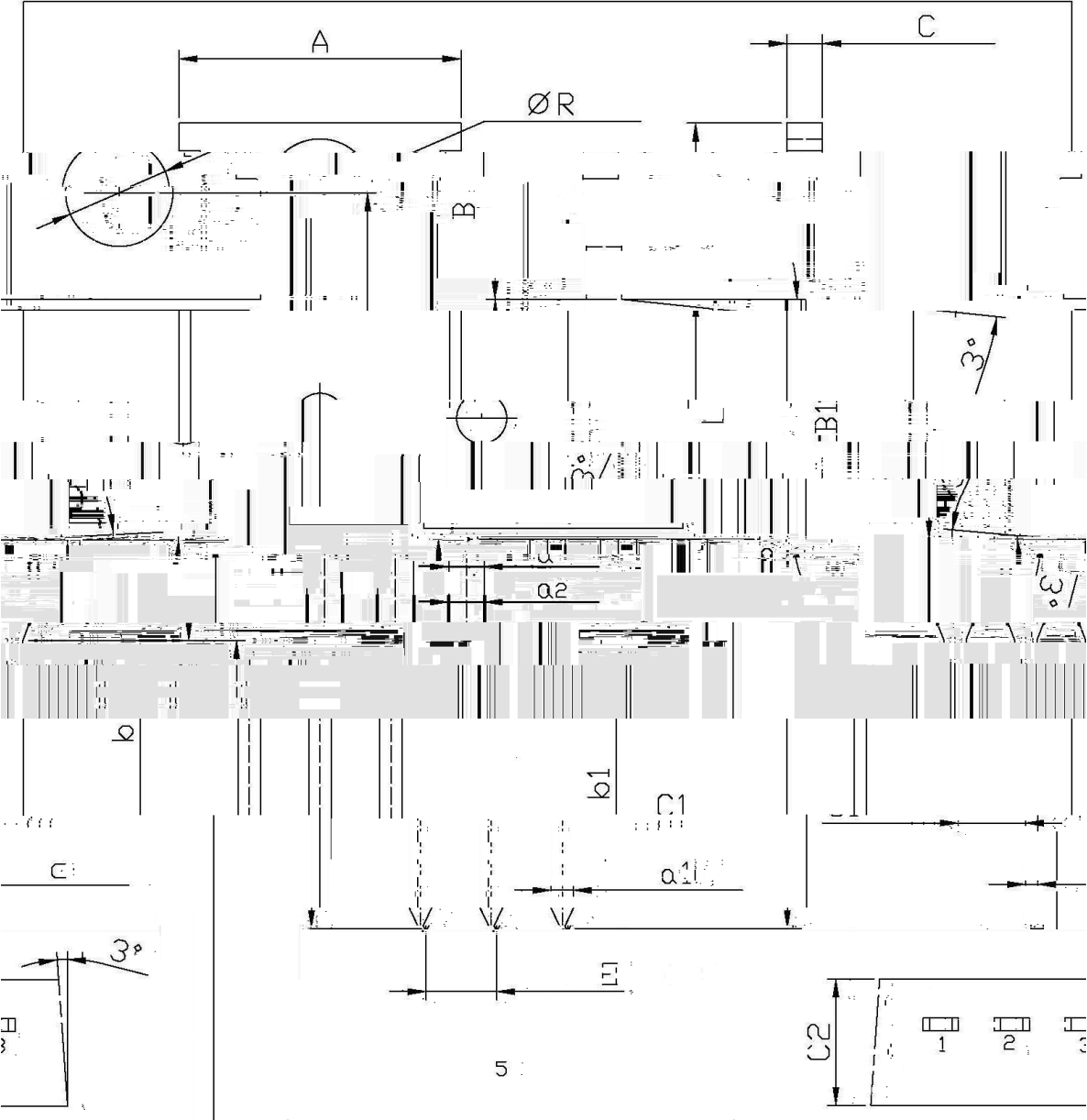


Figure 11: Normalized Maximum Transient Thermal Impedance

/ Package Dimensions

T0-220

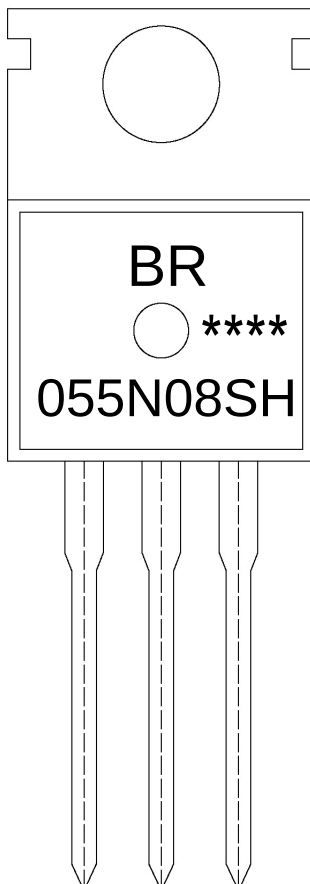
单位: mm



Symbol	Dimensions In Millimeters	
	Min	Max
A	9.8	10.2
R	3.56	3.64
L	15.7	16.1
b	12.6	13.6

Symbol	Dimensions In Millimeters	
	Min	Max
C	1.2	1.4
B	6.3	6.7
B1	9.0	9.4
C1	2.2	2.6

/ Marking Instructions



EU

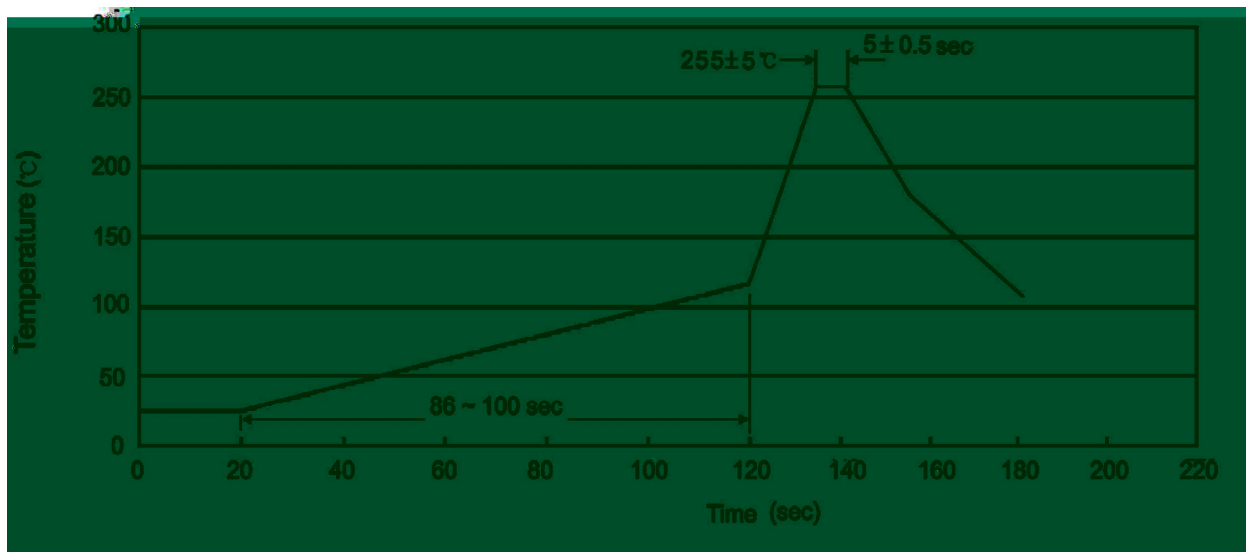
388Q3;VK

Note:

BR: Company Code

055N08SH: Product Type

****: Lot No. Code, code change with Lot No


() / Temperature Profile for Dip Soldering(Pb-Free)


Note:

- | | | | | | |
|---|--------|------|-----------|--------|---|
| 1 | 25 | 150% | 60 | 90sec; | 1.Preheating:25~150%, Time:60~90sec. |
| 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. |

/ Resistance to Soldering Heat Test Conditions

270±5% 10±1 sec. Temp.:270±5 Time:10±1 sec

/ Packaging SPEC.

/ BULK

Package Type 封装形式	Units 包装数量					Dimension 包装尺寸 (unit: mm ³)		
	Units/Bag 只/袋	Bags/Inner Box 袋/盒	Units/Inner Box 只/盒	Inner Boxes/Outer Box 盒/箱	Units/Outer Box 只/箱	Bag 袋	Inner Box 盒	Outer Box 箱
TO-220/F	200	10	2,000	5	10,000	135×190	237×172×102	560×245×195

/ TUBE

Package Type 封装形式	Units 包装数量					Dimension 包装尺寸 (unit: mm ³)		
	Units/Tube 只/套管	Tubes/Inner Box 套管/盒	Units/Inner Box 只/盒	Inner Boxes/Outer Box 盒/箱	Units/Outer Box 只/箱	Tube 套管	Inner Box 盒	Outer Box 箱
TO-220/F	50	20	1,000	5	5,000	532×31.4×5.5	555×164×50	575×290×180

/ Notices