

BRD65R1K0C

Rev.B May.-2022



DATA SHEET

/ Revised record

A	2022.4.21	ALL	AOS-AOD950A70		
B	2022.5.26	2,3,4,5	YC-RMX65R1K0SN_ReV1.2		

/ Descriptions

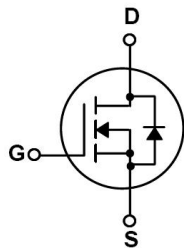
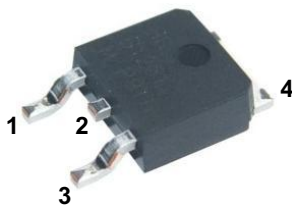
TO-252 N 650V

N-CHANNEL 650V Super-Junction Power MOSFET in a TO-252 Plastic Package.

/ Features $R_{DS(on)}$ C_{rss} Low $R_{DS(on)}$, low gate charge, low C_{rss} , fast switching, HF Product.**/ Applications**

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.

/ Equivalent Circuit**/ Pinning**

PIN1 G

PIN 2 D

PIN 3 S

PIN 4 D

/ Marking

See Marking Instructions.

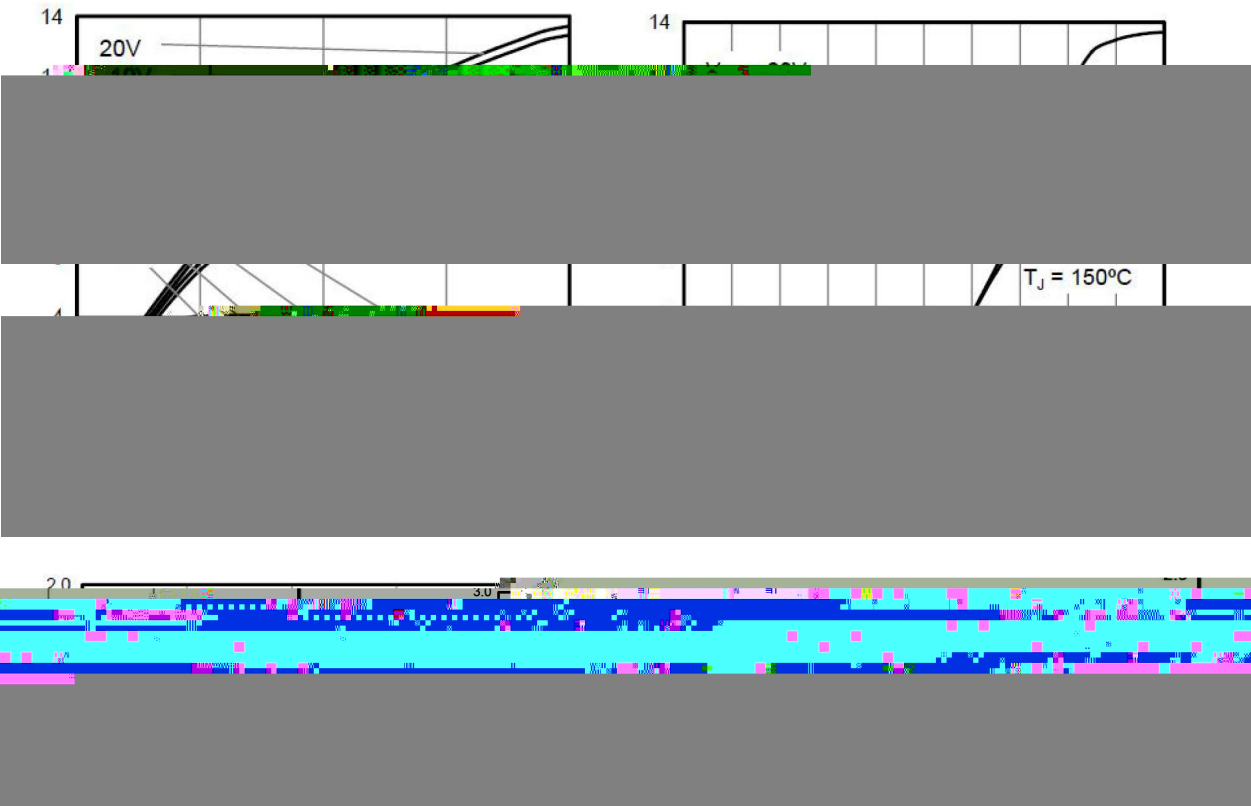
Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DSS}	650	V
Drain Current	$I_D(T_C=25^{\circ}C)$	5	A
Drain Current - Pulsed	I_{DM}	20	A
Gate-Source Voltage	V_{GS}	± 30	V
Single Pulsed Avalanche Energy	E_{AS}	27	mJ
Avalanche Current	I_{AS}	2.5	A
Power Dissipation	$P_D(T_C=25^{\circ}C)$	56.5	W
Operating and Storage Temperature Range	T_J, T_{STG}	-55 to 150	$^{\circ}C$
Junction-to-Case	$R_{\theta JC}$	2.2	$^{\circ}C/W$
Junction-to-Ambient	$R_{\theta JA}$	55	$^{\circ}C/W$

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	$V_{GS}=0V$ $I_D=250\mu A$	650	700		V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=650V$ $V_{GS}=0V$ $T_J=25^{\circ}C$			1.0	μA
Gate-Body Leakage Current, Forward	I_{GSS}	$V_{GS}=\pm 30V$			± 100	nA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$ $I_D=250\mu A$	2.5	3.3	4.0	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=10V$ $I_D=2A$		830	1000	m Ω
Drain-Source Diode Forward Voltage	V_{SD}	$V_{GS}=0V$ $I_{SD}=1A$ $T_J=25^{\circ}C$			1.2	

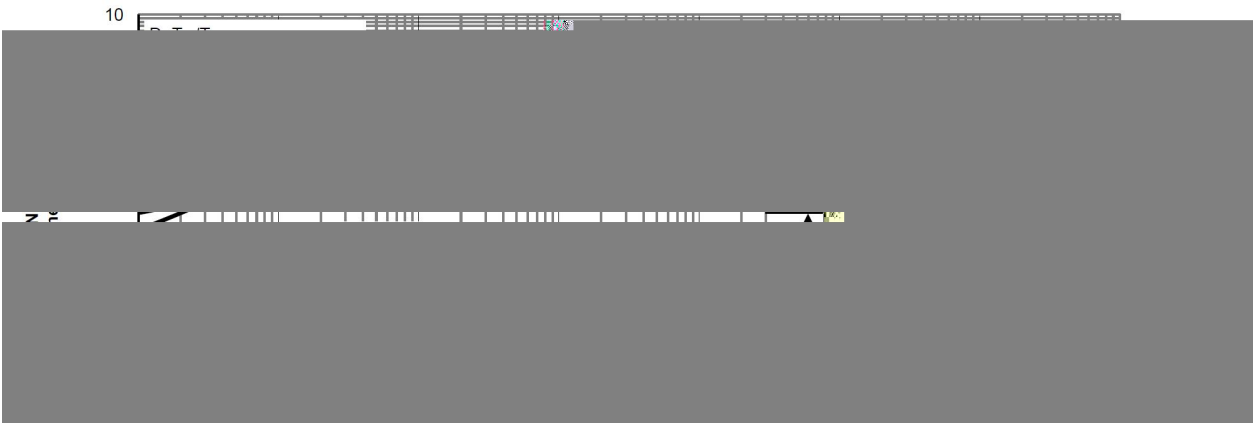
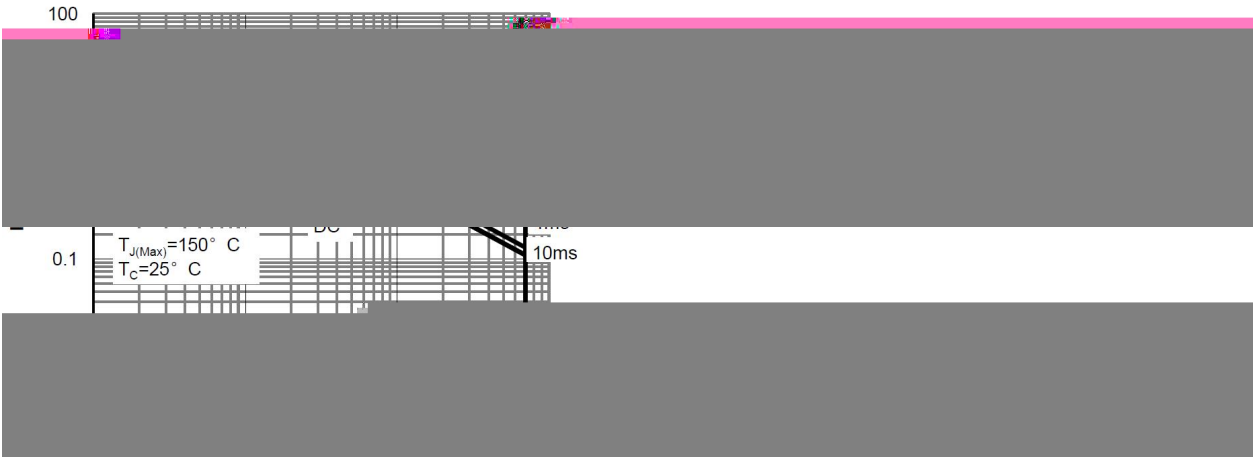
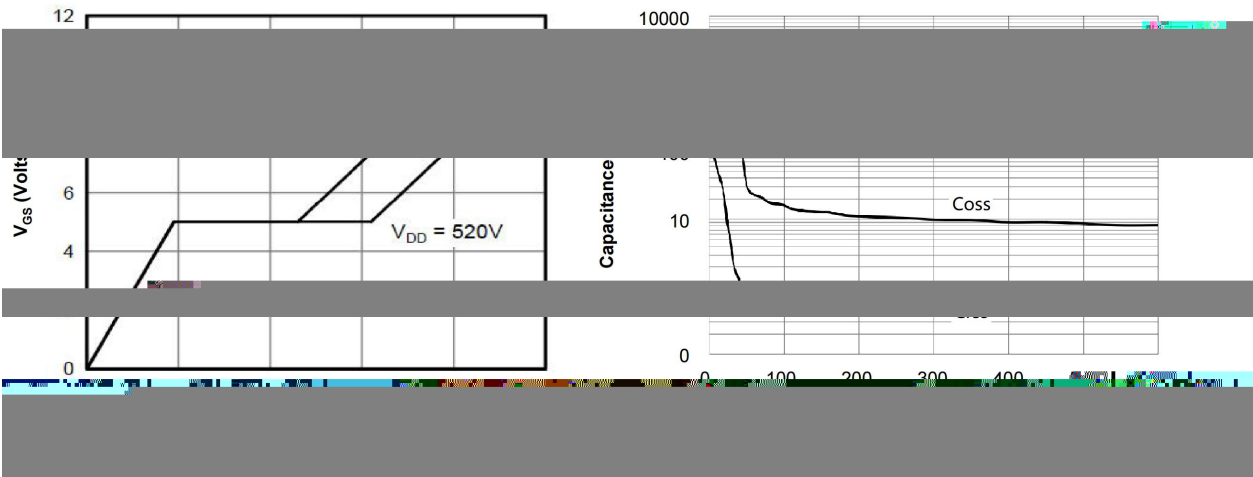
/ Electrical Characteristics(Ta=25)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Continuous Diode Forward Current	I_S				5	A
Total Gate Charge	Q_g	$V_{DS}=520V \quad I_D=2A$ $V_{GS}=10V$		9.1		nC
Gate-Source Charge	Q_{gs}			2.1		nC
Gate-Drain Charge	Q_{gd}			4.0		nC
Reverse recovery time	T_{rr}	$V_R=50V, I_F=2A,$ $dI_F/dt=100A/\mu s$		159		ns
Reverse recovery charge	Q_{rr}			0.93		uC

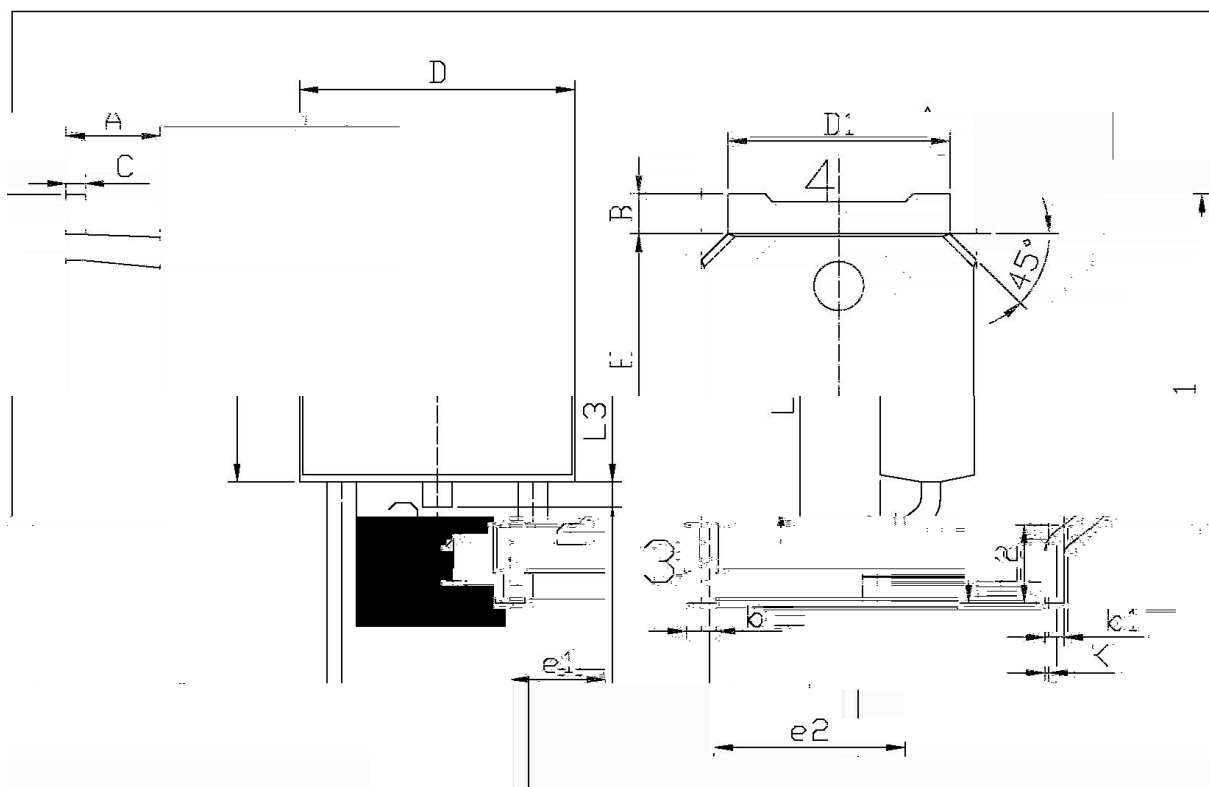
/ Electrical Characteristic Curve



/ Electrical Characteristic Curve



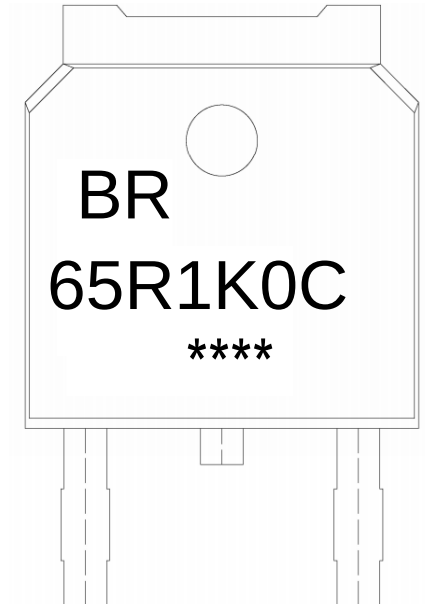
/ Package Dimensions



单位: mm

Dimensions In Millimeters		Symbol		Dimensions In Millimeters		Symbol	
Max	Min	Max	Min	Max	Min	Max	Min
5.95	5.25	A	3.20	7.20	6.45	L	6.45
2.24	2.34	B	0.95	1.25	e1	0.45	0.55
0.45	0.62	C	4.45	4.90	e2	0.45	0.55
5.95	5.25	D	9.35	10.35	D'	6.45	6.45
1.25	1.70	E	2.00	2.00	L3	0.60	0.90
6.75	6.75	L	0.60	0.90	R	0.00	0.00
5.95	5.25	L3	0.60	0.90	R	0.00	0.00

TN-252

/ Marking Instructions

BR

65R1K0C

Note:

BR: Company Code

65R1K0C: Product Type Code

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

