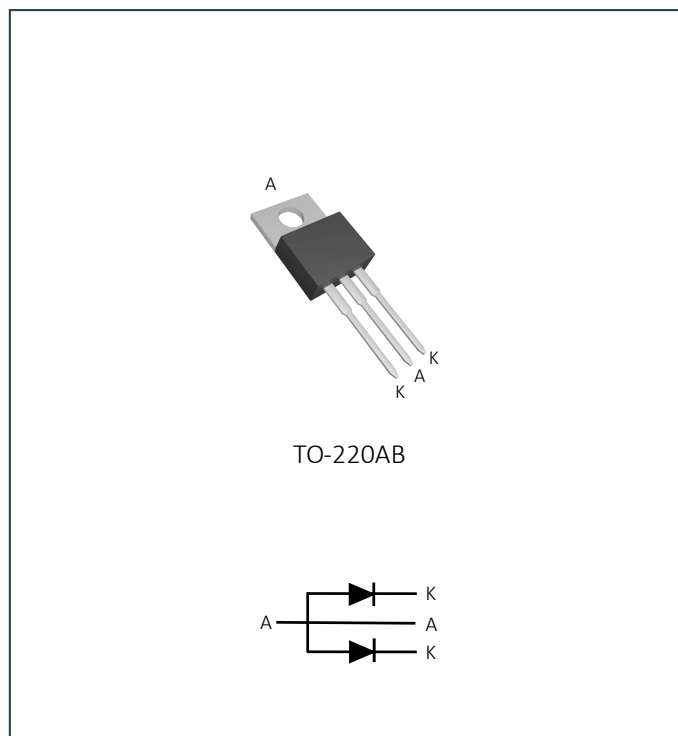


ER4004CA

超快恢复二极管整流器

Ultra Fast Recovery Rectifier

封装外形 Package



主要参数 Device summary

Symbol	Value
$I_F(AV)$	40A
V_{RRM}	400V
$V_F(typ)$	1.02V@20A 125°C
$I_R(typ)$	0.05mA@400V 125°C
$T_j(max)$	150°C

机械数据 Mechanical Data

- 模塑料符合 UL 94 V-0 易燃等级, 符合 RoHS 标准
Molding compound meets UL 94 V-0 flammability rating, RoHS-compliant
- 端子: 镀锡引线, 可焊接 J-STD-002 和 JESD22-B102
Terminals: Tin plated leads, solderable per J-STD-002 and JESD22-B102
- 极性: 本体标记
Polarity: As marked on body

产品特点 Features

超快恢复时间 Ultra-fast recovery time
低正向压降 Low forward voltage
高结温 High Junction temperature
低漏电 Low leakage current
高可靠性 High reliability
环保产品 RoHS product

最大额定值 Maximum ratings

项目 Parameter	符合 Symbol	数值 Value	单位 Unit
反向重复峰值电压 Peak repetitive reverse voltage	V_{RRM}	400	V
平均正向电流 Average forward current	$I_{F(AV)}$	40	A
	per diode	20	A
浪涌电流 Non-repetitive single pulse surge current $t=8.3ms$	I_{FSM}	250	A
结温 Junction temperature	T_j	-55~+150	°C
存储温度 Storage temperature	T_{STG}	-55~+150	°C

电特性 Electrical characteristics($T_c=25^{\circ}C$)

项目 Parameter	测试条件 Tests conditions		数值 Value			单位 Unit
			最小值(min)	典型值(typ)	最大值(max)	
V_{RRM}	$I_R=0.05mA$		400	-	-	V
I_R 反向漏电流	$T_j=25^{\circ}C$	$V_R=V_{RRM}$	-	-	0.05	mA
	$T_j=125^{\circ}C$		-	-	0.5	
V_F 正向电压	$T_j=25^{\circ}C$	$I_F=20A$	-	-	1.35	V
	$T_j=125^{\circ}C$	$I_F=1A$	-	0.58	-	
		$I_F=10A$	-	0.88	-	
		$I_F=20A$	-	1.02	-	
T_{rr} 反向恢复时间	$T_j=25^{\circ}C$	Reverse recovery condition $I_F=0.5A, I_R=1.0A, I_{rr}=0.25A$	-	-	35	nS

热特性 Thermal characteristics($T_c=25^{\circ}C$)

Parameter	Symbol	Value	Unit
热阻 Thermal resistance from junction to case	$R_{th(j-c)}$	2.5	°C/W

典型特征曲线图 Typical Characteristic Curve

图 1: 正向电流与外壳温度

FIG 1: $I_F - T_C$

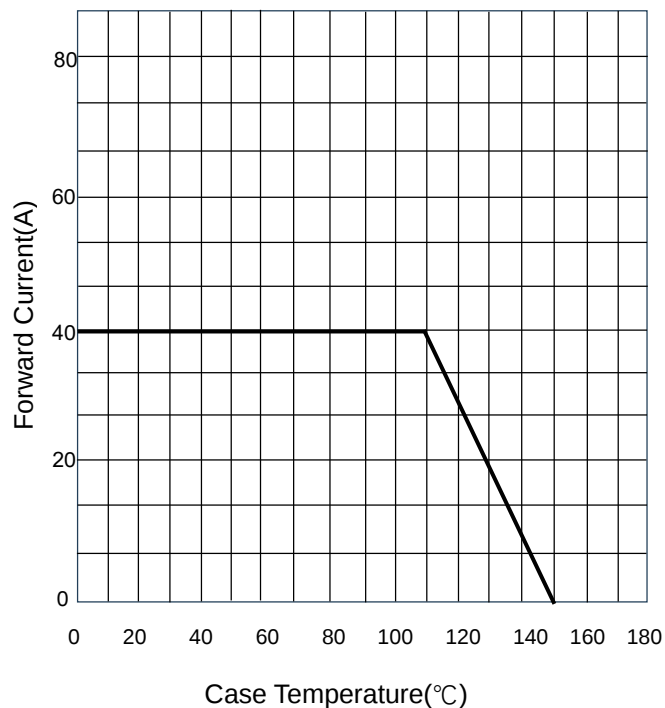


图 2: 正向浪涌循环次数

FIG 2: Surge Forward Current Capability

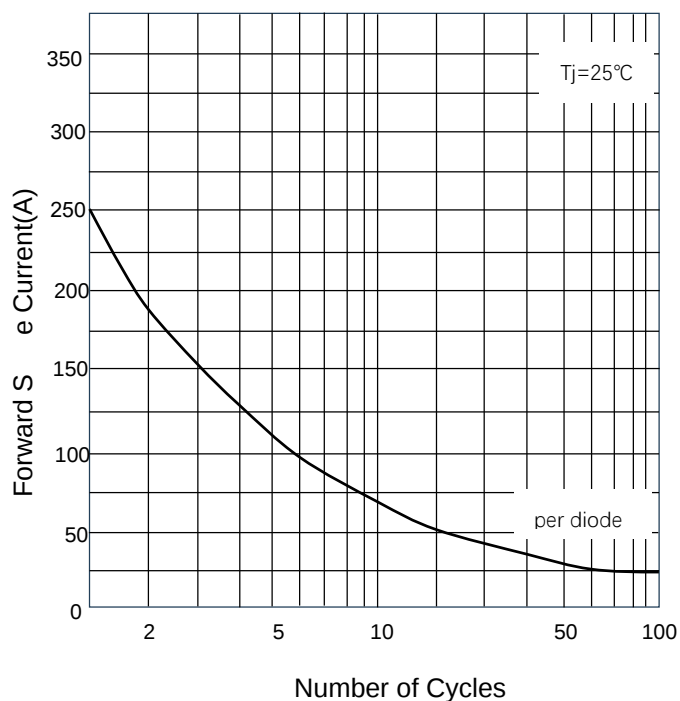


图 3: 反向电压与反向电流

FIG 3: $V_R - I_R$

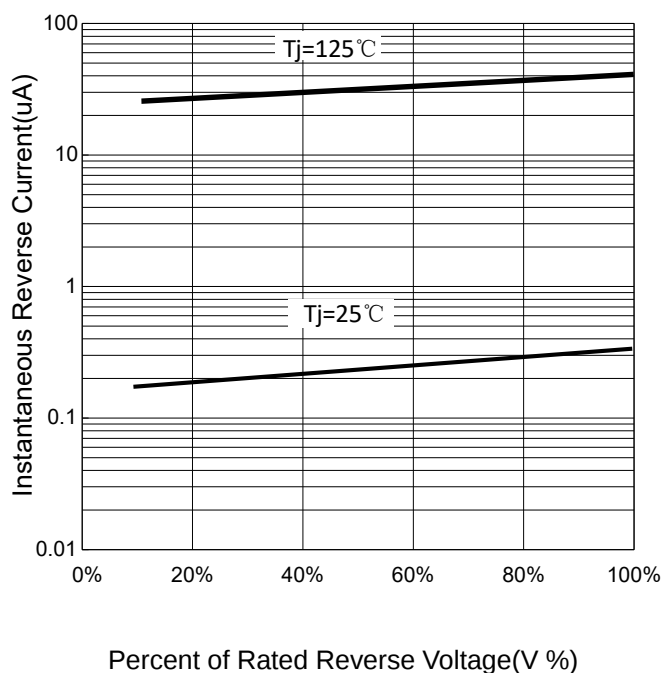
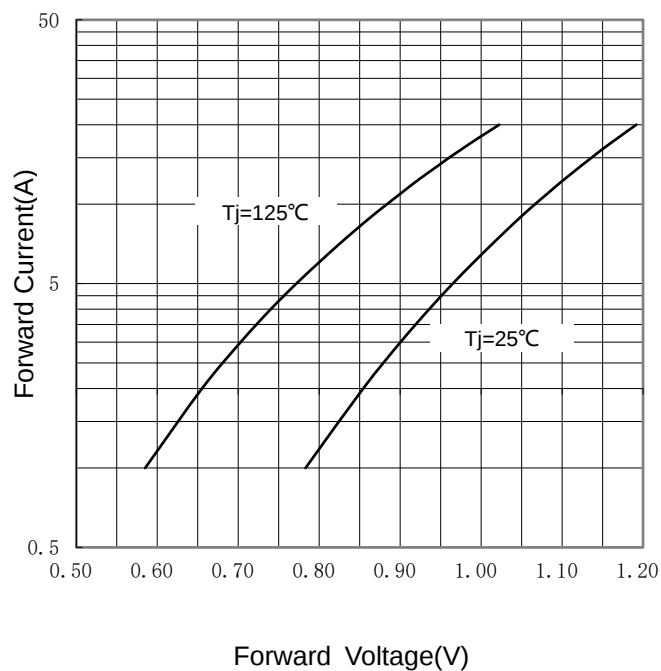
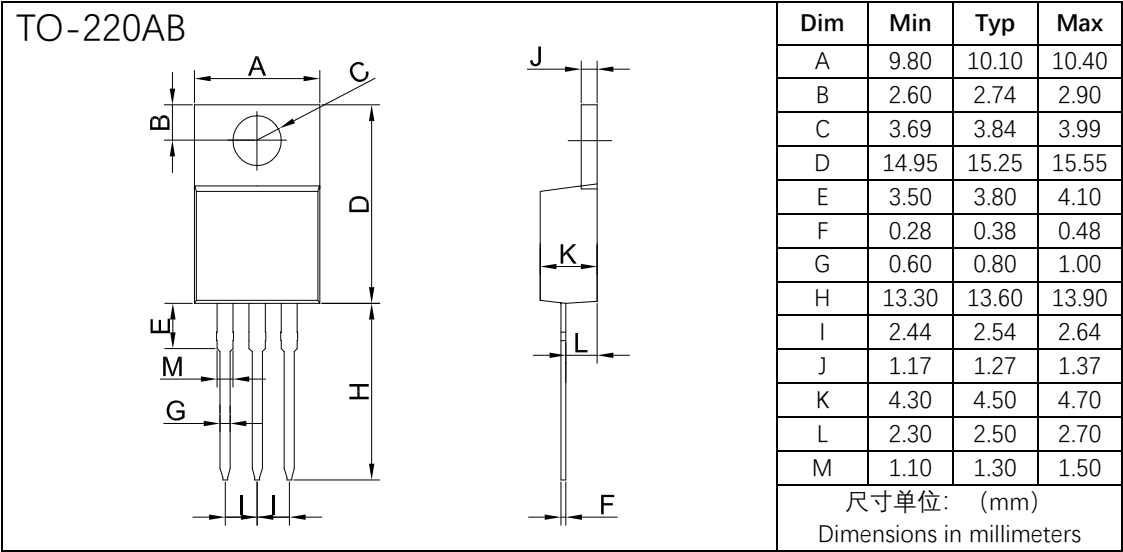


图 4: 正向电流与正向电压

FIG 4: $I_F - V_F$



外形尺寸图及焊盘布局参考 Outline Dimensions and Pad Layout Reference



订购信息 Ordering Information

订单型号 Order code	印记 Marking	封装 Package	重量 Weight (g)	包装形式 Packing	基本包装 Base qty (pcs)	盒 Box (pcs)	箱 Carton (pcs)
CER4004CA000P	ER4004CA	TO-220AB	1.9	管装 Tube	50	1000	5000

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