FR151 THRU FR157

快恢复二极管 Fast Recovery Rectifier

■特征 Features

- I_o 1.5A
- VRRM 50V-1000V
- 耐正向浪涌电流能力高
- High surge current capability

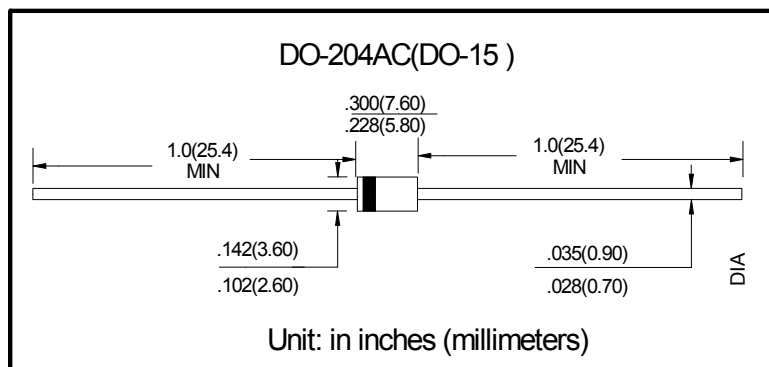### ■用途 Applications

- 整流用 Rectifier

■外形尺寸和印记 Outline Dimensions and Mark

DO-204AC(DO-15)

.300(7.60)
.228(5.80)

1.0(25.4) MIN

1.0(25.4) MIN

.142(3.60)
.102(2.60)

.035(0.90)
.028(0.70)

DIA

Unit: in inches (millimeters)

■极限值（绝对最大额定值）
Limiting Values (Absolute Maximum Rating)

参数名称 Item	符号 Symbol	单位 Unit	条件 Conditions	FR						
				151	152	153	154	155	156	157
反向重复峰值电压 Repetitive Peak Reverse Voltage	V_{RRM}	V		50	100	200	400	600	800	1000
正向平均电流 Average Forward Current	$I_{F(AV)}$	A	正弦半波60Hz,电阻负载,Ta=50℃ 60Hz Half-sine wave, Resistance load, Ta=50℃	1.5						
正向（不重复）浪涌电流 Surge(Non-repetitive)Forward Current	I_{FSM}	A	正弦半波60Hz，一个周期,Ta=25℃ 60Hz Half-sine wave,1 cycle, Ta=25℃	50						
结温 Junction Temperature	T_J	℃		-55~+125						
储存温度 Storage Temperature	T_{STG}	℃		-55 ~ +150						

■电特性 （**Ta=25℃ 除非另有规定**）
Electrical Characteristics (**Ta=25℃ Unless otherwise specified**)

参数名称 Item	符号 Symbol	单位 Unit	测试条件 Test Condition		FR						
					151	152	153	154	155	156	157
正向峰值电压 Peak Forward Voltage	V_{FM}	V	I_{FM}=1.5A		1.3						
反向峰值电流 Peak Reverse Current	I_{RRM1}	μA	V_{RM}=V_{RRM}	Ta=25℃	2.5						
	I_{RRM2}			Ta=125℃	100						
反向恢复时间 Reverse Recovery time	t_{rr}	ns	I_F=0.5A I_R=1A I_{RR}=0.25A		150				250		500
热阻(典型) Thermal Resistance(Typical)	$R_{\theta J-A}$	℃/W	结和环境之间 Between junction and ambient		45						
结电容 Typical junction capacitance	Cj	pF	Measured at 1MHZ and Applied Reverse Voltage of 4.0 V.D.C.		35						

特性曲线（典型） Characteristics(Typical)

FIG.1 正向电流降额曲线
FORWARD CURRENT DERATING CURVE

Single Phase
Half Wave 60HZ
Resisteve or
Inductive Load
0.375"(9.5mm)
Lead Length
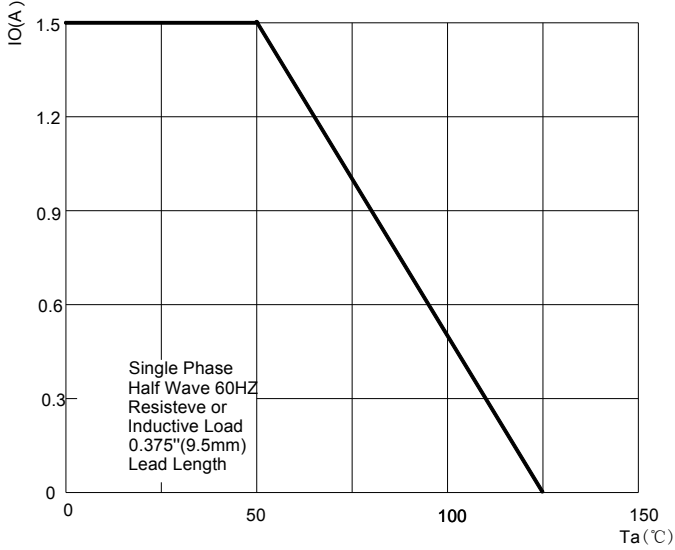
FIG.2 最大正向浪涌冲击耐受力
MAXIMUM NON-REPETITIVE FORWARD
SURGE CURRENT

8.3ms Single Half Sine Wave
JEDEC Method

周波数
Number of Cycles
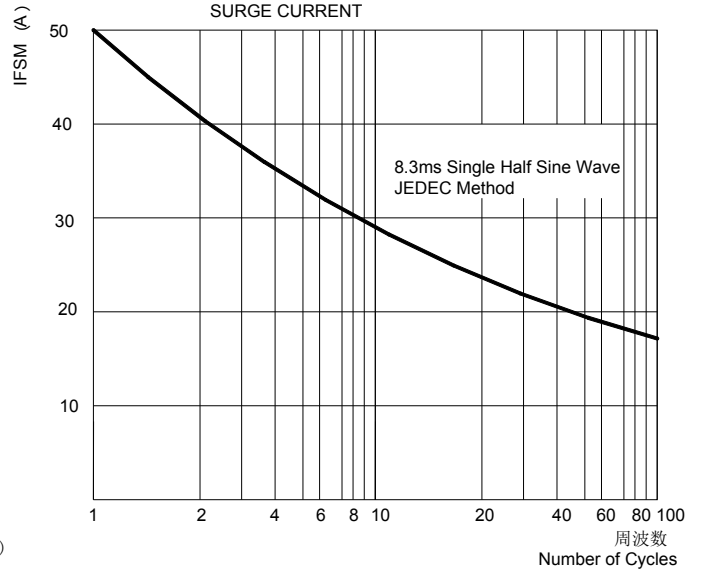
FIG.3 典型正向特性曲线
TYPICAL FORWARD CHARACTERISTICS

TJ=25℃
Pulse width=300us
1% Duty Cycle
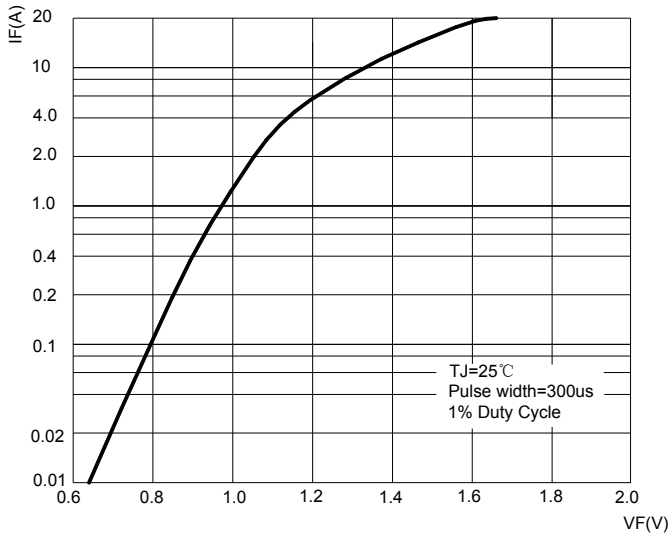
FIG.4 典型反向特性曲线
TYPICAL REVERSE CHARACTERISTICS

T_J=125℃
T_J=100℃
T_J=25℃
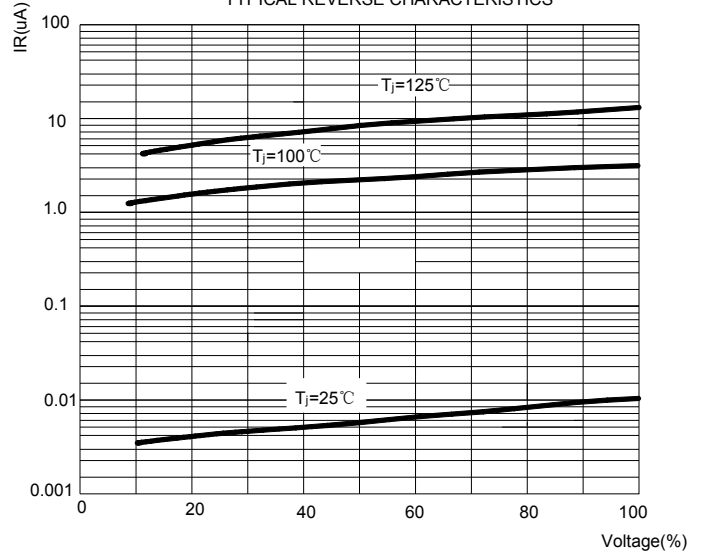
FIG.5 反向恢复时间试验电路及测试波形示意图
Diagram of circuit and Testing wave form of reverse recovery time

50 Ω
NONINDUCTIVE

10 Ω
NONINDUCTIVE

DUT

(+)
(−)

1 Ω
NONINDUCTIVE

OSCILLOSCOPE
(NOTE1)

PULSE
GENERATOR
(NOTE2)

(−)

(+)

NOTES:
1.Rise Time=7ns max .Inpot Impedance=1MΩ 22pf
2.Rise Time=10ns max.Sourse Impedance=50Ω

t_{rr}

+0.5A

0

-0.25A

-1.0A

1cm
SET TIME BASE FOR
5/10ns/cm
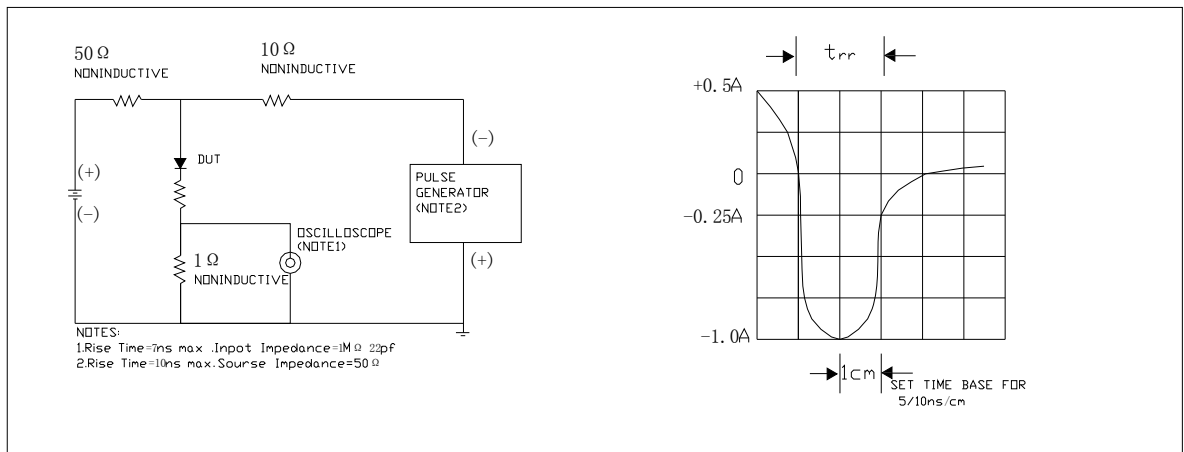
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