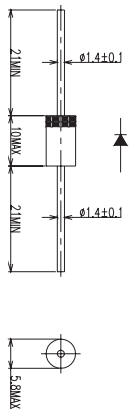
3A Avg. 400 Volts FRED 31DF4

■最大定格　Maximum Ratings

Item	Symbol	Conditions			Unit
くり返しピーク逆電圧 Repetitive Peak Reverse Voltage	V_{RRM}	400			V
非くり返しピーク逆電圧 Non-repetitive Peak Reverse Voltage	V_{RSM}	440			V
平均整流電流 Average Rectified Forward Current	I_O	50Hz、正弦半波通電抵抗負荷 50Hz Half Sine Wave Resistive Load	Ta＝29℃*1	1.5	A
			Ta＝40℃*2	3.0	A
実効順電流 R.M.S. Forward Current	$I_{F(RMS)}$	4.71			A
サージ順電流 Surge Forward Current	I_{FSM}	60 50Hz正弦半波，1サイクル，非くり返し 50Hz Half Sine Wave,1cycle, Non-repetitive			A
動作接合温度範囲 Operating Junction Temperature Range	T_{jw}	−40～＋150			℃
保存温度範囲 Storage Temperature Range	T_{stg}	−40～＋150			℃

■OUTLINE DRAWING(mm)



■APPROX. NET WEIGHT:1.19g

■電気的・熱的特性　Electrical/Thermal Characteristics

Item	Symbol	Conditions		Min.	Typ.	Max.	Unit
ピーク逆電流 Peak Reverse Current	I_{RM}	T_j＝25℃, V_{RM}＝V_{RRM}		−	−	20	μA
ピーク順電圧 Peak Forward Voltage	V_{FM}	T_j＝25℃, I_{FM}＝3A		−	−	1.25	V
逆回復時間 Reverse Recovery Time	trr	I_{FM}＝3A, -di/dt＝50 A/μs, T_j＝25℃		−	−	30	ns
熱抵抗 Thermal Resistance	$R_{th(j-a)}$	接合部・周囲間 Junction to Ambient	単体フィン無し*1	−	−	80	℃/W
			銅版フィン付き*2	−	−	34	℃/W

*1：単体フィン無し / Without Fin or P.C. Board
*2：銅版フィン付き(両側) / With Cu Fin (20×20×1t, L=5mm, Both Sides)

■定格・特性曲線

FIG.1
順電圧特性
FORWARD CURRENT VS. VOLTAGE

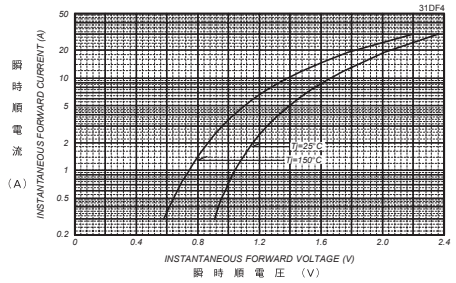


FIG.2
平均順電力損失特性
AVERAGE FORWARD POWER DISSIPATION

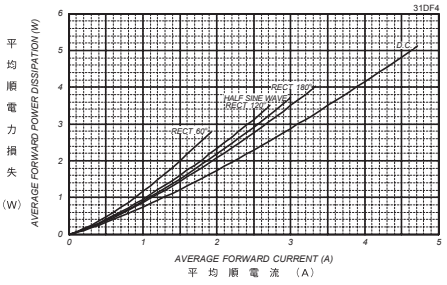


FIG.3
平均順電流－周囲温度定格
AVERAGE FORWARD CURRENT VS. AMBIENT TEMPERATURE
Without Fin or P.C.Board

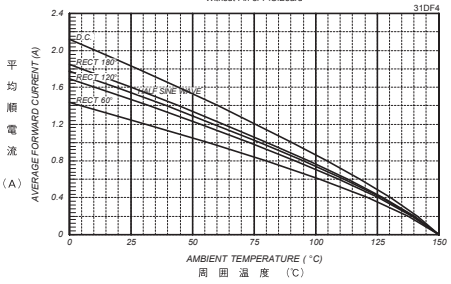


FIG.4
平均順電流－周囲温度定格
AVERAGE FORWARD CURRENT VS. AMBIENT TEMPERATURE
With Cu Fin(20×20×1t,L=5mm,Both Sides)

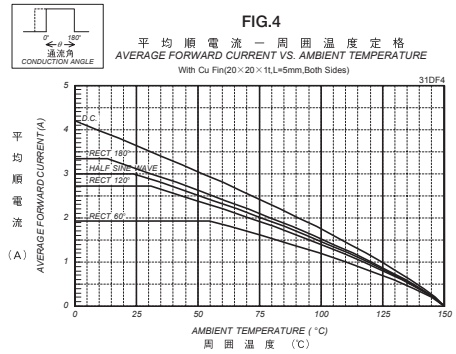


FIG.5
サージ順電流定格
SURGE CURRENT RATINGS
f=50Hz,Half Sine Wave,Non-Repetitive,No Load

