

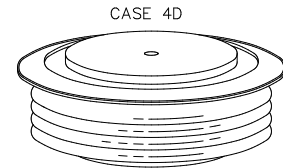
M 1 4 9 4 N C 1 8 0

**- Soft Recovery Diode
1800 V_{RRM};**

HIGH POWER FAST RECOVERY RECTIFIER

Features:

- . All Diffused Structure
- . Fast Switching Performance
- . Blocking capability up to 1800 volts
- . Soft Reverse Recovery
- . Rugged Ceramic Hermetic Package
- . Pressure Assembled Device



ELECTRICAL CHARACTERISTICS AND RATINGS

Reverse Blocking

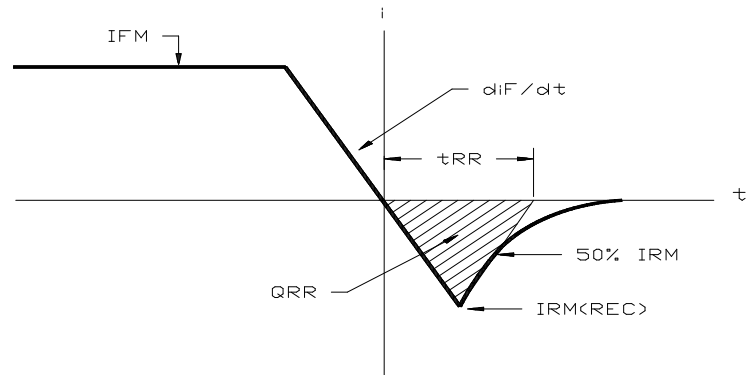
Device Type	V _{RRM} (1)	V _{RSM} (1)
M1494NC180	1800	1900

V_{RRM} = Repetitive peak reverse voltage
 V_{RSM} = Non repetitive peak reverse voltage (2)

Notes:

All ratings are specified for T_j=25 °C unless otherwise stated.

- (1) All voltage ratings are specified for an applied 50Hz/60zHz sinusoidal waveform over the temperature range -40 to +150 °C.
- (2) 10 msec. max. pulse width
- (3) Maximum value for T_j = 150 °C.
- (4) See parameter definition below :



REVERSE RECOVERY CHARACTERISTIC

Repetitive peak reverse leakage	I _{RRM}	85 mA (3)
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Conducting - on state

Parameter	Symbol	Min	Max.	Typ	Units	Conditions
Average value of on-state current	I _{F(AV)}		1495		A	Sinewave, 180° conduction, T _c =55°C
RMS value of on-state current	I _{FRMS}		2984		A	Nominal value

Peak one cycle surge (non repetitive) current	I_{FSM}		19600		A	10.0 msec (50Hz), sinusoidal wave-shape, 180° conduction, $T_j = 125\text{ °C}$
I square t	I^2t		1.9×10^6		A^2s	10 msec
Peak on-state voltage	V_{FM}		2.30		V	$I_{FM} = 4500\text{ A}$; Duty cycle $\leq 0.01\%$; T_{jmax}
Reverse Recovery Current (4)	$I_{RM(REC)}$		175		A	$I_{FM} = 1000\text{ A}$; $dI/dt = 60\text{ A}/\mu s$; T_{jmax}
Reverse Recovery Charge (4)	Q_{rr}		950		μC	$I_{FM} = 1000\text{ A}$; $dI/dt = 60\text{ A}/\mu s$; T_{jmax}
Reverse Recovery Time (4)	t_{RR}		*	4.9	μs	

* For guaranteed maximum values, contact factory

Technical Data :

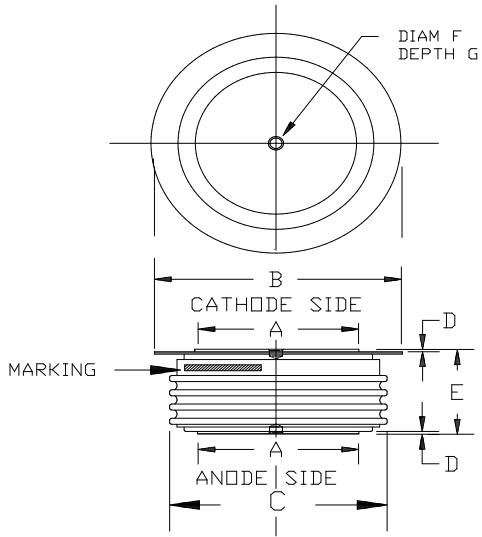
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THERMAL AND MECHANICAL CHARACTERISTICS M1494NC180 – Soft Recovery Diode

Parameter	Symb ol	Min.	Max.	Typ.	Units	Conditions
Operating temperature	T_j	-40	+125		$^{\circ}C$	
Storage temperature	T_{stg}	-40	+150		$^{\circ}C$	
Thermal resistance - junction to case	$R_{\theta(j-s)}$		0.022 0.044		$^{\circ}C/W$	Double sided cooled Single sided cooled
Mounting force	P	4384 19	6000 26		lb. kN	
Weight	W			16 460	oz. g	

* Mounting surfaces smooth, flat and greased

CASE OUTLINE AND DIMENSIONS



OUTLINE DIMENSIONS - CASE 4D				
DIMENSIONS	Min. mm	Max. mm	Min. In.	Max. In.
DIAM A	43.18	48.26	1.70	1.90
DIAM B	63.50	75.18	2.50	2.96
DIAM C	--	67.31	--	2.65
D	0.76	--	0.03	--
E	25.40	27.18	1.00	1.07
F	3.30	3.81	0.13	0.15
G	1.78	2.03	0.07	0.08

STRIKE DISTANCE = .73 INCH / 18.5 MM MIN.
 CREEPAGE DISTANCE = 1.17 INCH / 29.7 MM MIN.