

1N1199B thru 1N1206B



MOTOROLA

MEDIUM-CURRENT SILICON RECTIFIERS

Compact, highly efficient silicon rectifiers for medium-current applications requiring:

- High Current Surge —
250 Amperes @ $T_J = 200^\circ\text{C}$
- Peak Performance at Elevated Temperature —
12 Amperes @ $T_C = 150^\circ\text{C}$

MEDIUM-CURRENT SILICON RECTIFIERS

50-600 VOLTS
12 AMPERES

DIFFUSED JUNCTION

*MAXIMUM RATINGS

Characteristic	Symbol	1N 1199B	1N 1200B	1N 1202B	1N 1204B	1N 1206B	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	50	100	200	400	600	Volts
Non-Repetitive Peak Reverse Voltage (Halfwave, single phase, 60 Hz peak)	V_{RSM}	100	200	350	600	800	Volts
Average Rectified Forward Current (Single phase, resistive load, 60 Hz, $T_C = 150^\circ\text{C}$)	I_O	← 12 →					Amp
Non-Repetitive Peak Surge Current (Surge applied at rated load conditions, half wave, single phase, 60 Hz)	I_{FSM}	← 250 (for 1 cycle) →					Amp
Operating and Storage Junction Temperature Range	T_J, T_{stg}	← -65 to +200 →					$^\circ\text{C}$

*THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Thermal Resistance, Junction to Case	$R_{\theta JC}$	2.0	$^\circ\text{C}/\text{W}$

*ELECTRICAL CHARACTERISTICS

Characteristic and Conditions	Symbol	Max	Unit
Maximum Instantaneous Forward Voltage ($I_F = 40\text{ A}$, $T_C = 25^\circ\text{C}$)	v_F	1.2	Volts
Maximum Reverse Current (Rated dc voltage, $T_C = 150^\circ\text{C}$)	I_R	1.0	mA
Maximum Average Reverse Current at Rated Conditions	I_{RO}	0.9	mA
DC Forward Voltage ($I_F = 12\text{ A}$, $T_C = 25^\circ\text{C}$)	V_F	1.1	Volts
Reverse Recovery Time ($I_{FM} = 40\text{ A}$, $di/dt = 25\text{ A}/\mu\text{s}$ to $I_{FM} = 0$, $t_p \geq 4.0\text{ }\mu\text{s}$, 60 pulses/second, 25°C)	t_{rr}	5.0	μs

*Indicates JEDEC registered data.

MECHANICAL CHARACTERISTICS

Case: Metal hermetically sealed

Finish: All external surfaces are corrosion-resistant and the terminal lead is readily solderable

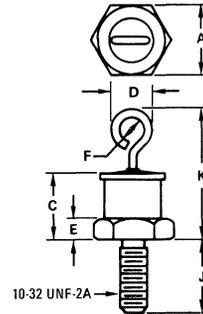
Polarity: Cathode to case (reverse polarity units are available and designed by an "R" suffix, i.e., 1N1202RB)

Mounting Positions: Any

Stud Torque: 15 in/lbs max

Maximum Terminal Temperature for Soldering Purposes:
275 $^\circ\text{C}$ for 10 seconds at 3 kg tension.

Weight: 6 grams (approx)



DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	10.77	11.10	0.424	0.437
C	—	10.29	—	0.405
D	—	6.35	—	0.250
E	1.91	4.45	0.075	0.175
F	1.52	—	0.060	—
J	10.72	11.51	0.422	0.453
K	—	20.32	—	0.800

CASE 245
DO-203AA
(DO-4)