

# MA4X194 (MA194)

Silicon epitaxial planar type

For switching circuits

### ■ Features

- Short reverse recovery time  $t_{rr}$
- Two isolated elements contained in one package, allowing high-density mounting

### ■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

Parameter	Symbol	Rating	Unit
Reverse voltage (DC)	$V_R$	40	V
Repetitive peak reverse voltage	$V_{RRM}$	40	V
Average forward current	Single	$I_{F(AV)}$	100 mA
	Double	$I_{F(AV)}$	75 mA/Unit
Repetitive peak forward current	Single	$I_{FRM}$	225 mA
	Double	$I_{FRM}$	170 mA/Unit
Non-repetitive peak forward surge current*	Single	$I_{FSM}$	500 mA
	Double	$I_{FSM}$	375 mA/Unit
Power dissipation	$P_D$	150	mW
Junction temperature	$T_j$	150	$^\circ\text{C}$
Storage temperature	$T_{stg}$	-55 to +150	$^\circ\text{C}$

Note) \* :  $t = 1 \text{ s}$

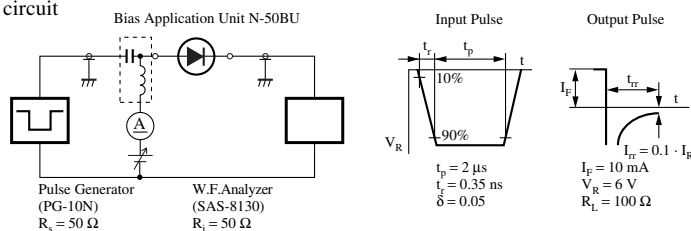
### ■ Electrical Characteristics $T_a = 25^\circ\text{C}$

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Reverse current (DC)	$I_{R1}$	$V_R = 40 \text{ V}$			10	nA
	$I_{R2}$	$V_R = 35 \text{ V}, T_a = 150^\circ\text{C}$			10	$\mu\text{A}$
Forward voltage (DC)	$V_F$	$I_F = 100 \text{ mA}$		0.98	1.2	V
Terminal capacitance	$C_t$	$V_R = 6 \text{ V}, f = 1 \text{ MHz}$		1.0	2.0	pF
Forward dynamic resistance	$r_f^{*1}$	$I_F = 3 \text{ mA}, f = 30 \text{ MHz}$		1.7	2.5	$\Omega$
	$r_f^{*2}$	$I_F = 3 \text{ mA}, f = 30 \text{ MHz}$			3.6	
Reverse recovery time* <sup>3</sup>	$t_{rr}$	$I_F = 10 \text{ mA}, V_R = 6 \text{ V}$ $I_{rr} = 0.1 \cdot I_R, R_L = 100 \Omega$			100	ns

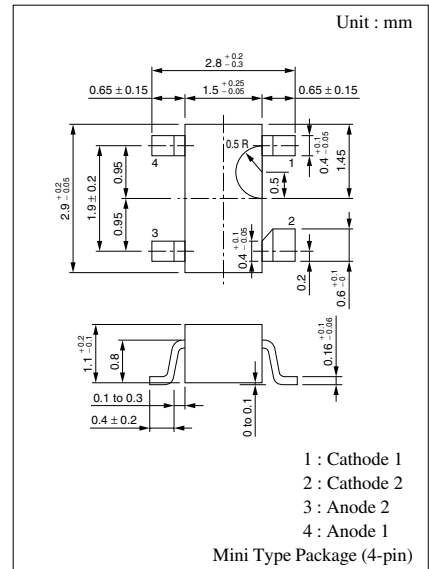
Note) \*1 :  $r_f$  measuring instrument: Nihon Koshuha Model TDC-121A

\*2 :  $r_f$  measuring instrument: YHP 4191A RF IMPEDANCE ANALYZER

\*3 :  $t_{rr}$  measuring circuit

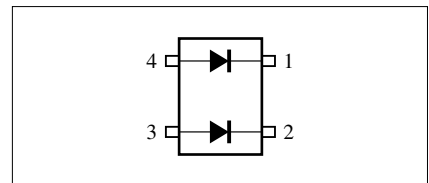


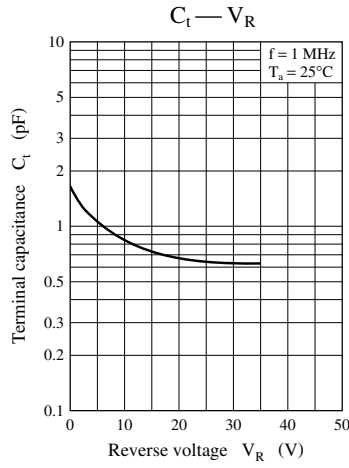
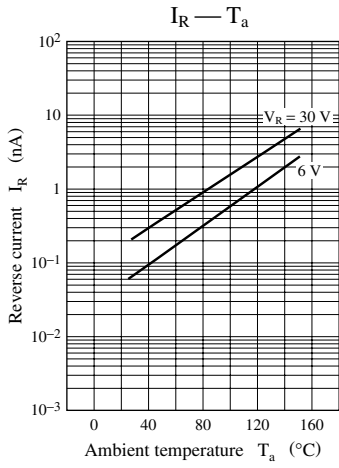
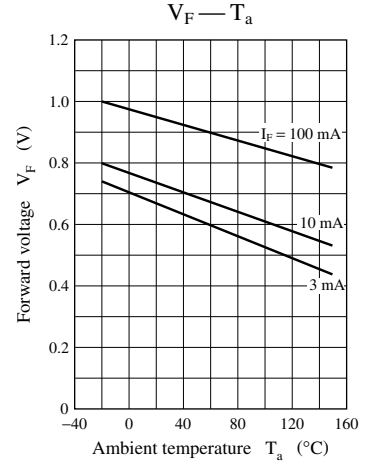
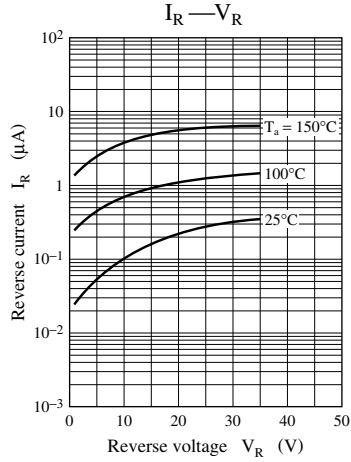
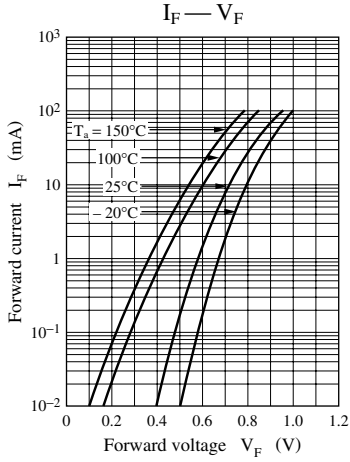
Note) The part number in the parenthesis shows conventional part number.



Marking Symbol: M1F

Internal Connection





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