

**FAIRCHILD**  
SEMICONDUCTOR®

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# BAY71

## Small Signal Diode



**DO-35**  
Color Band Denotes Cathode

### Absolute Maximum Ratings \* $T_a = 25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Value	Unit
$V_{RRM}$	Maximum Repetitive Reverse Voltage	50	V
$I_{F(AV)}$	Average Rectified Forward Current	200	mA
$I_{FSM}$	Non-repetitive Peak Forward Surge Current Pulse Width = 1.0 second Pulse Width = 1.0 microsecond	1.0	A
		4.0	A
$T_{STG}$	Storage Temperature Range	-65 to +200	$^\circ\text{C}$
$T_J$	Operating Junction Temperature	175	$^\circ\text{C}$

\* These ratings are limiting values above which the serviceability of the diode may be impaired.

**NOTES:**

- 1) These ratings are based on a maximum junction temperature of 200 degrees C.
- 2) These are steady limits. The factory should be consulted on applications involving pulsed or low duty cycle operations.

### Thermal Characteristics

Symbol	Parameter	Value	Unit
$P_D$	Power Dissipation	500	mW
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	300	$^\circ\text{C/W}$

### Electrical Characteristics $T_C = 25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Conditions	Min.	Max	Units
$V_R$	Breakdown Voltage	$I_R = 5\mu\text{A}$	50		V
$V_F$	Forward Voltage	$I_F = 0.1\text{mA}$	0.48	0.56	V
		$I_F = 1.0\text{mA}$	0.57	0.69	V
		$I_F = 10\text{mA}$	0.69	0.88	V
		$I_F = 20\text{mA}$	0.76	1.0	V
$I_R$	Reverse Leakage	$V_R = 35\text{V}$		100	nA
		$V_R = 35\text{V}, T_A = 125^\circ\text{C}$		100	$\mu\text{A}$
$C_T$	Total Capacitance	$V_R = 0, f = 1.0\text{MHz}$		2	pF
$t_{rr}$	Reverse Recovery Time	$I_F = I_R = 10\text{mA}, I_{rr} = 1.0\text{mA}, R_L = 100\Omega$		4	ns
$t_{fr}$	Forward Recovery Time	$I_F = 100\text{mA}$		40	ns



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