

Common Cathode Silicon Dual Switching Diode

This Common Cathode Silicon Epitaxial Planar Dual Diode is designed for use in ultra high speed switching applications. This device is housed in the SC-70 package which is designed for low power surface mount applications.

- Fast t_{rr} , < 3.0 ns
- Low C_D , < 2.0 pF
- Available in 8 mm Tape and Reel

Use M1MA141/2WKT1 to order the 7 inch/3000 unit reel.

Use M1MA141/2WKT3 to order the 13 inch/10,000 unit reel.

DEVICE MARKING

M1MA141WKT1 = MT M1MA142WKT2=MU

MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$)

Rating	Symbol	Value	Unit
Reverse Voltage	M1MA141WKT1 M1MA142WKT1	V_R 80	V_{dc}
Peak Reverse Voltage	M1MA141WKT1 M1MA142WKT1	V_{RM} 80	V_{dc}
Forward Current	Single Dual	I_F 150	mAdc
Peak Forward Current	Single Dual	I_{FM} 340	mAdc
Peak Forward Surge Current	Single Dual	$I_{FSM}^{(1)}$ 750	mAdc

THERMAL CHARACTERISTICS

Rating	Symbol	Max	Unit
Power Dissipation	P_D	150	mW
Junction Temperature	T_J	150	$^\circ\text{C}$
Storage Temperature	T_{stg}	-55 ~ +150	$^\circ\text{C}$

ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$)

Characteristic	Symbol	Condition	Min	Max	Unit
Reverse Voltage Leakage Current	M1MA141WKT1 M1MA142WKT1	$V_R = 35\text{ V}$ $V_R = 75\text{ V}$	—	0.1	μAdc
Forward Voltage	V_F	$I_F = 100\text{ mA}$	—	1.2	Vdc
Reverse Breakdown Voltage	M1MA141WKT1 M1MA142WKT1	$I_R = 100\text{ }\mu\text{A}$	40 80	—	Vdc
Diode Capacitance	C_D	$V_R=0, f=1.0\text{ MHz}$	—	2.0	pF
Reverse Recovery	Time	$t_{rr}^{(2)}$ $I_F=10\text{ mA}, V_R=6.0\text{ V}$ $R_L=100\Omega, I_{rr}=0.1 I_R$	—	3.0	ns

1. $t = 1\text{ SEC}$

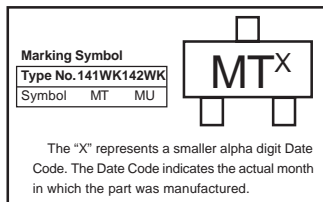
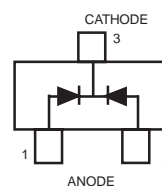
2. t_{rr} Test Circuit

M1MA141WKT1
M1MA142WKT1

SC-70/SOT-323 PACKAGE
COMMON CATHODE
DUAL SWITCHING DIODE
40/80 V-100 mA
SURFACE MOUNT

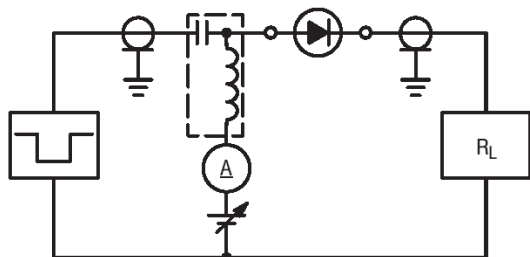


CASE 419-04, STYLE 5
SOT-323 /SC - 70

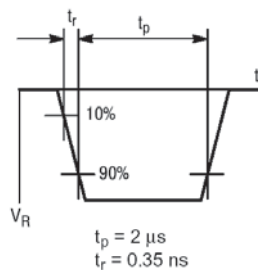


M1MA141WKT1 M1MA142WKT1

RECOVERY TIME EQUIVALENT TEST CIRCUIT



INPUT PULSE



OUTPUT PULSE

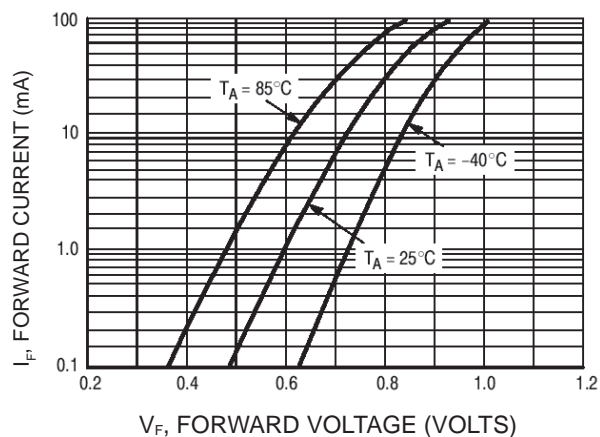
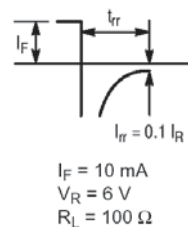


Figure 1. Forward Voltage

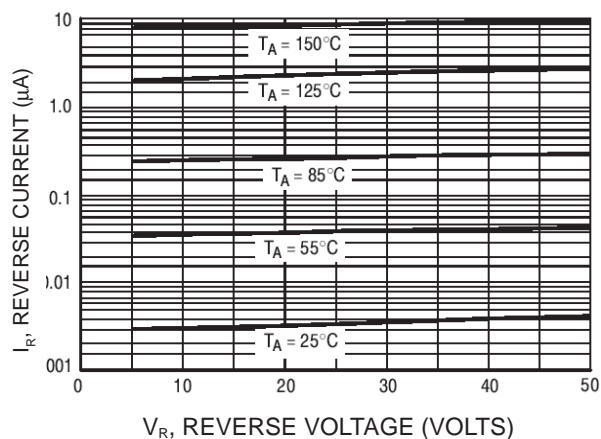


Figure 2. Reverse Current

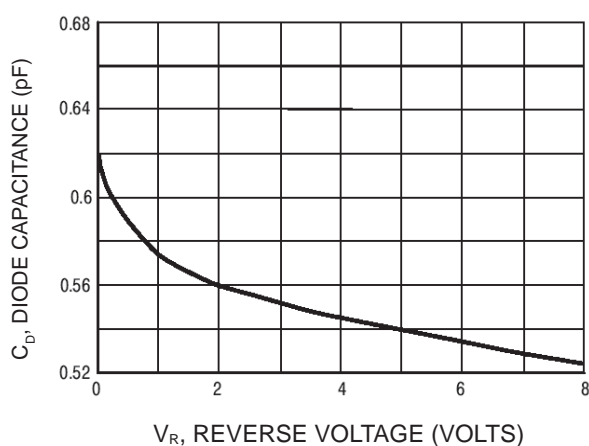


Figure 3. Diode Capacitance