

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.

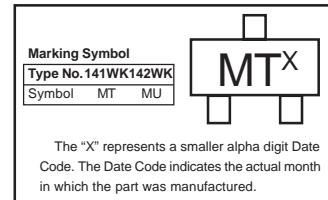
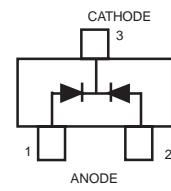
Use M1MA141/2WKT3 to order the 13 inch/10,000 unit reel.

**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



DEVICE MARKING

M1MA141WKT1 = MT M1MA142WKT2=MU

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

Rating	Symbol	Value	Unit
Reverse Voltage	M1MA141WKT1	V_R	V_{dc}
	M1MA142WKT1	80	
Peak Reverse Voltage	M1MA141WKT1	V_{RM}	V_{dc}
	M1MA142WKT1	80	
Forward Current	Single	I_F	mAdc
	Dual	100	
Peak Forward Current	Single	I_{FM}	mAdc
	Dual	150	
Peak Forward Surge Current	Single	$I_{FSM}^{(1)}$	mAdc
	Dual	225	
Peak Forward Surge Current	Single	500	mAdc
	Dual	750	

THERMAL CHARACTERISTICS

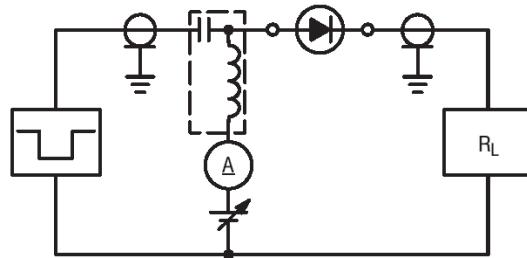
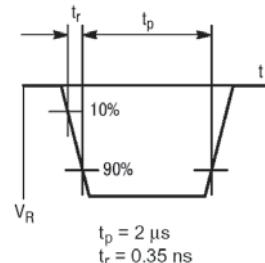
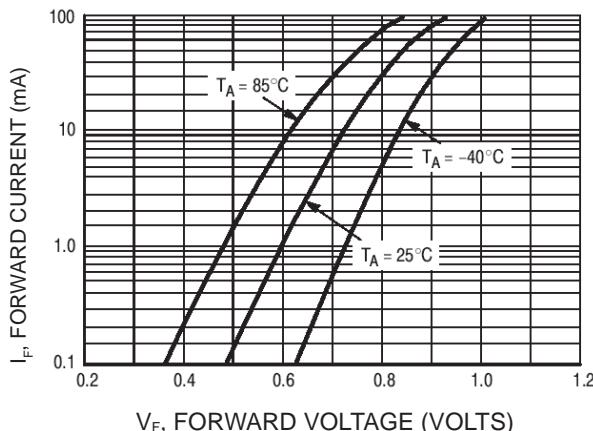
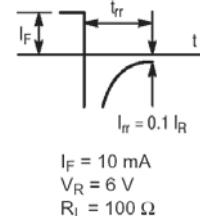
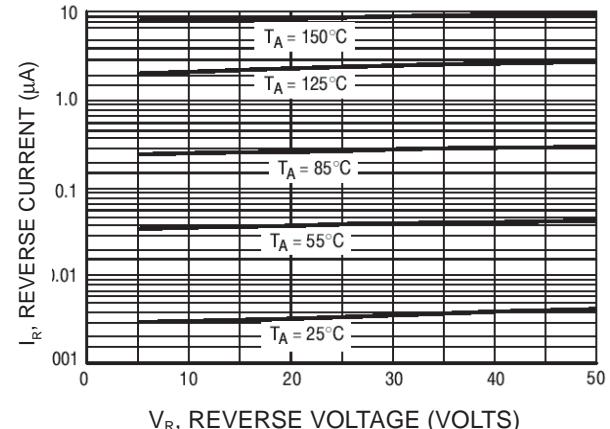
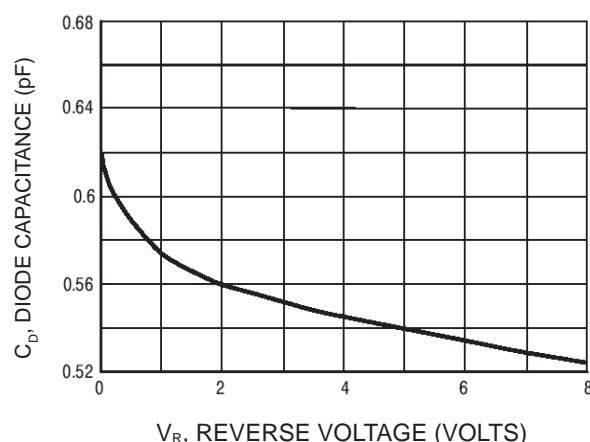
Rating	Symbol	Max	Unit
Power Dissipation	P_D	150	mW
Junction Temperature	T_J	150	$^\circ\text{C}$
Storage Temperature	T_{stg}	-55 ~ +150	$^\circ\text{C}$

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

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

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

2. t_{rr} Test Circuit

M1MA141WKT1 M1MA142WKT1
RECOVERY TIME EQUIVALENT TEST CIRCUIT

INPUT PULSE

OUTPUT PULSE

Figure 1. Forward Voltage

Figure 2. Reverse Current

Figure 3. Diode Capacitance