MMBD914

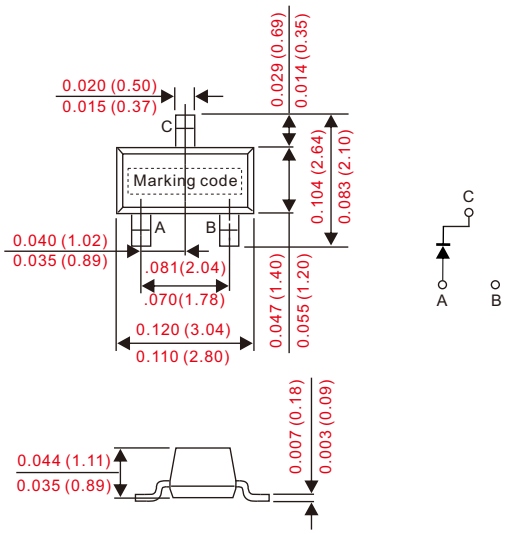
200mA Surface Mount Switching Diodes

■ Features

- Fast switching speed.
- Electrically identical to standard JEDEC.
- Surface mount package ideally suited for automatic insertion.
- Tiny plastic SMD package.
- Silicon epitaxial planar chip.
- Suffix "G" indicates Halogen-free part, ex.MMBD914G.
- Lead-free parts meet environmental standards of MIL-STD-19500 /228

■ Outline

SOT-23



Dimensions in inches and (millimeters)

■ Mechanical data

- Epoxy:UL94-V0 rated flame retardant
- Case : Molded plastic, SOT-23
- Terminals : Solder plated, solderable per MIL-STD-750, Method 2026
- Mounting Position : Any
- Weight : Approximated 0.008 gram

■ Maximum ratings and electrical characteristics

Rating at 25°C ambient temperature unless otherwise specified. Single phase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%.

Parameter		Symbol	MMBD914	UNIT
Marking code			5D	
Reverse voltage		V_R	100	V
Forward current		I_F	200	mA
Peak forward surge current		$I_{FM(Surge)}$	500	
Total device dissipation FR-5(1)	Board T_A = 25°C	P_D	225	mW
	Derate Above 25°C		1.8	mW/°C
Termal resistance junction to ambient		$R_{\theta JA}$	556	°C/W
Total device dissipation alumina(2)	Substrate T_A = 25°C	P_D	300	mW
	Derate Above 25°C		2.4	mW/°C
Termal resistance junction to ambient		$R_{\theta JA}$	417	°C/W
Operating Junction temperature		T_J	-55 ~ +150	°C
Storage temperature		T_{STG}	-55 ~ +150	°C
Reverse breakdown voltage	I_R = 100uA	$V_{(BR)}$	100	V
Forward voltage	I_F = 10mA	V_F	1000	mV
Reverse voltage leakage current	V_R = 20V	I_R	25	nA
	V_R = 75V		5.0	uA
Diode Capacitance	V_R = 0V, f = 1.0MHz	C_T	4.0	pF
Reverse recover time	$I_F = I_R$ = 10mA, Irr = 0.1 x I_R, R_L = 100Ω	trr	4.0	ns

NOTE : 1. FR-5 = 1.0 x 0.75 x 0.062 in.
2. Alumina = 0.4 x 0.3 x 0.024 in. 99.5% alumina.

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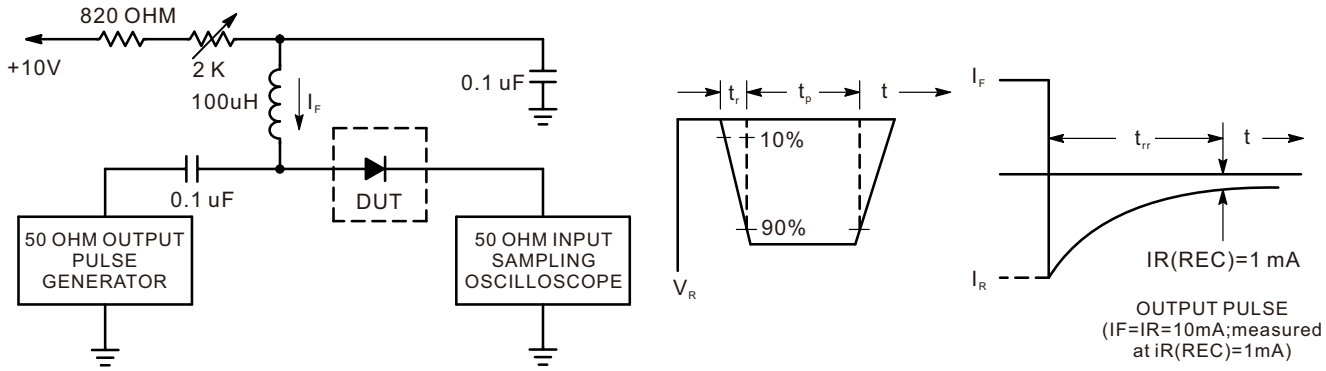
■ Rating and characteristic curves



Notes : 1. A2.0 Kohm variable resistor adjusted for a forward Current (IF) of 10mA.
2. Input pulse is adjusted so IR(peak) is equal to 10 mA.
3. tp >> trr.

Recovery Time Equivalent Test Circuit

FIG.2-FORWARD VOLTAGE

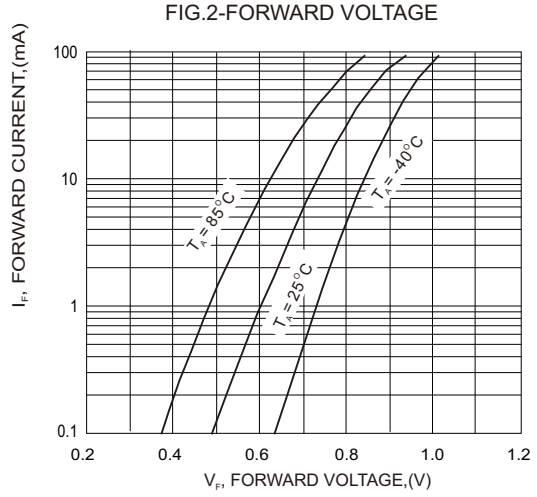


FIG.3 - LEAKAGE CURRENT

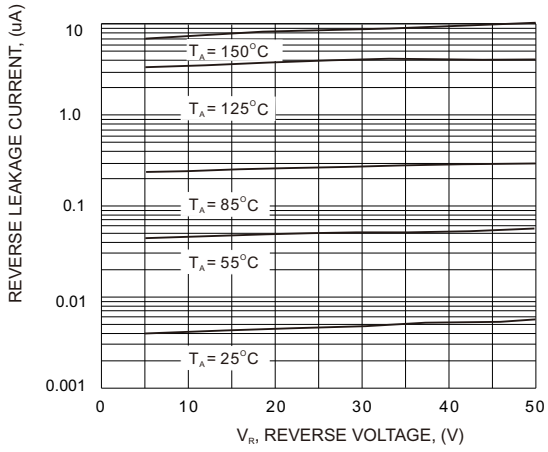
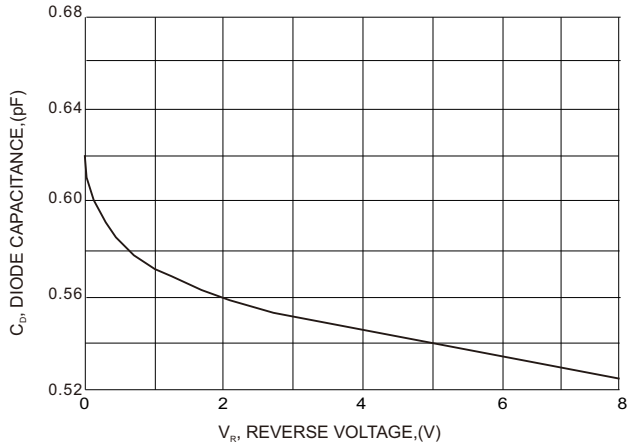


FIG.4-DIODE CAPACITANCE



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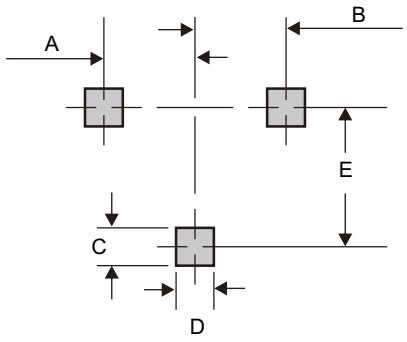
■ SOT-23 foot print



A	B	C	D	E
0.037 (0.95)	0.037 (0.95)	0.035 (0.90)	0.031 (0.80)	0.079 (2.00)

Dimensions in inches and (millimeters)

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