# MA3J745D (MA745WA)

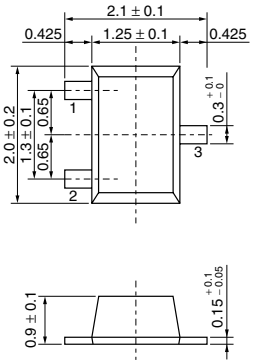
## Silicon epitaxial planar type

For switching circuits

### ■ Features

- Optimum for low-voltage rectification because of its low forward rise voltage ($V_F$)
- Optimum for high-frequency rectification because of its short reverse recovery time ($t_{rr}$)

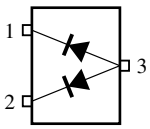
Unit : mm




1 : Cathode 1
2 : Cathode 2
3 : Anode 1, 2
EIAJ : SC-70
Flat S-Mini Type Package (3-pin)

Marking Symbol: M3E

Internal Connection




### ■ Absolute Maximum Ratings $T_a = 25°C$

| Parameter | | Symbol | Rating | Unit |
|---|---|---|---|---|
| Reverse voltage (DC) | | $V_R$ | 30 | V |
| Peak reverse voltage | | $V_{RM}$ | 30 | V |
| Forward current (DC) | Single | $I_F$ | 30 | mA |
| | Double* | | 20 | |
| Peak forward current | Single | $I_{FM}$ | 150 | mA |
| | Double* | | 110 | |
| Junction temperature | | $T_j$ | 125 | °C |
| Storage temperature | | $T_{stg}$ | −55 to +125 | °C |

Note) * : Value per chip

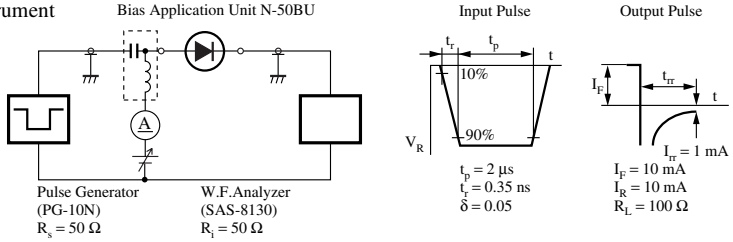
### ■ Electrical Characteristics $T_a = 25°C$

| Parameter | Symbol | Conditions | Min | Typ | Max | Unit |
|---|---|---|---|---|---|---|
| Reverse current (DC) | $I_R$ | $V_R$ = 30 V | | | 30 | μA |
| Forward voltage (DC) | $V_{F1}$ | $I_F$ = 1 mA | | | 0.3 | V |
| | $V_{F2}$ | $I_F$ = 30 mA | | | 1.0 | V |
| Terminal capacitance | $C_t$ | $V_R$ = 1 V, f = 1 MHz | | 1.5 | | pF |
| Reverse recovery time* | $t_{rr}$ | $I_F = I_R$ = 10 mA<br>$I_{rr}$ = 1 mA, $R_L$ = 100 Ω | | 1.0 | | ns |
| Detection efficiency | η | $V_{in}$ = 3 $V_{(peak)}$, f = 30 MHz<br>$R_L$ = 3.9 kΩ, $C_L$ = 10 pF | | 65 | | % |

Note) 1. Schottky barrier diode is sensitive to electric shock (static electricity, etc.). Due attention must be paid on the charge of a human body and the leakage of current from the operating equipment.

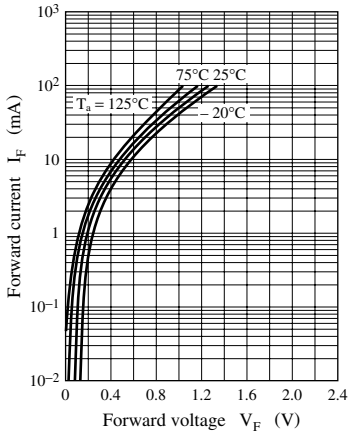
2. Rated input/output frequency: 2 000 MHz

3. * : $t_{rr}$ measuring instrument

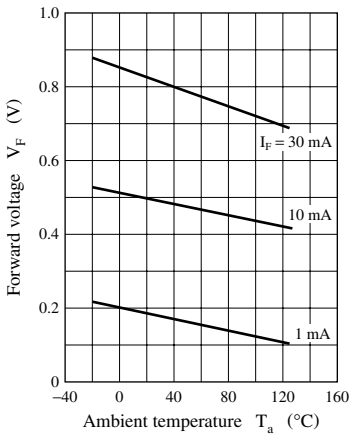



Note) The part number in the parenthesis shows conventional part number.

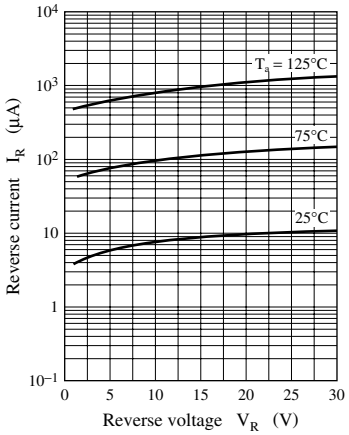
$I_F$ — $V_F$



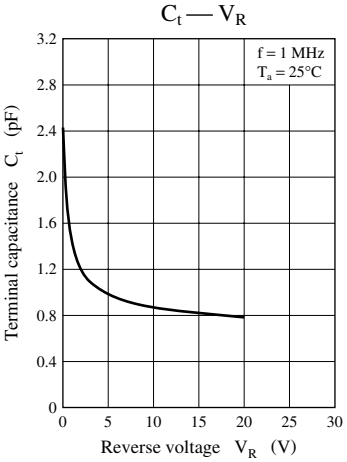

$V_F$ — $T_a$



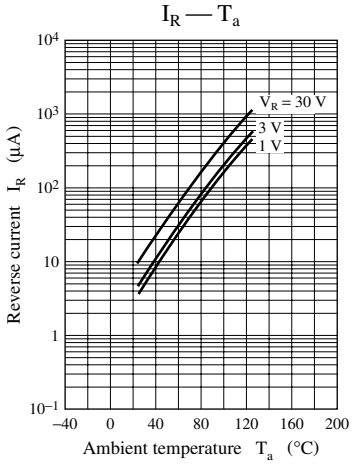

$I_R$ — $V_R$




$C_t$ — $V_R$




$I_R$ — $T_a$



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