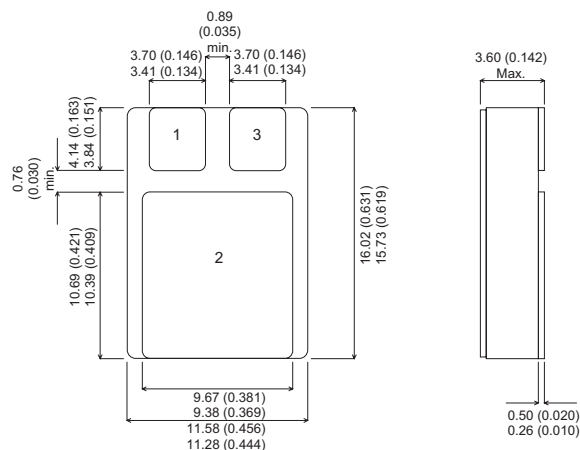


MECHANICAL DATA

Dimensions in mm (inches)



COMMON CATHODE SCHOTTKY DIODE IN HERMETIC CERAMIC SURFACE MOUNT PACKAGE FOR HIGH RELIABILITY APPLICATIONS

PACKAGE SMD1 (TO-276AB)
Underside View

PAD 1 — Anode 1 PAD 2 — Cathode PAD 3 — Anode 2

ABSOLUTE MAXIMUM RATINGS ($T_C = 25^\circ\text{C}$ unless otherwise stated)

V_{RRM}	Repetitive Peak Reverse Voltage	150V
I_{FAV}	Average Forward Current $T_C = 25^\circ\text{C}$	23A
	$T_C = 90^\circ\text{C}$	17A
I_{FSM}	Maximum source forward current $T_{vj} = 45^\circ\text{C}$; $t_p = 10\text{ms}$ (50Hz), sine	30A
T_{vj}	Virtual Junction Temperature	$-55 + 175^\circ\text{C}$
T_{stg}	Storage Temperature	$-55 + 150^\circ\text{C}$
P_{tot}	$T_C = 25^\circ\text{C}$	60W
R_{thjc}	Thermal Characteristics	2°C/W

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

Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I_R^* Reverse Current	$T_{VJ} = 25^\circ\text{C}$ $V_R = V_{RRM}$			2.0	mA
	$T_{VJ} = 125^\circ\text{C}$ $V_R = V_{RRM}$		2.0		
V_F^* Forward Voltage	$I_F = 7.5\text{A}$ $T_{VJ} = 125^\circ\text{C}$	0.8			V
	$I_F = 7.5\text{A}$ $T_{VJ} = 25^\circ\text{C}$	0.8		1.0	
C_J Capacitance	$V_R = 100\text{V}$ $T_{VJ} = 125^\circ\text{C}$	33			pF

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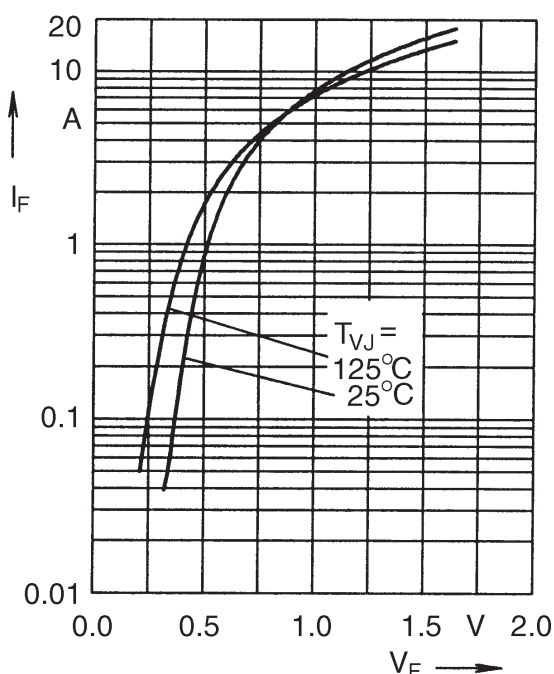


FIG. 1 TYP. FORWARD CHARACTERISTICS

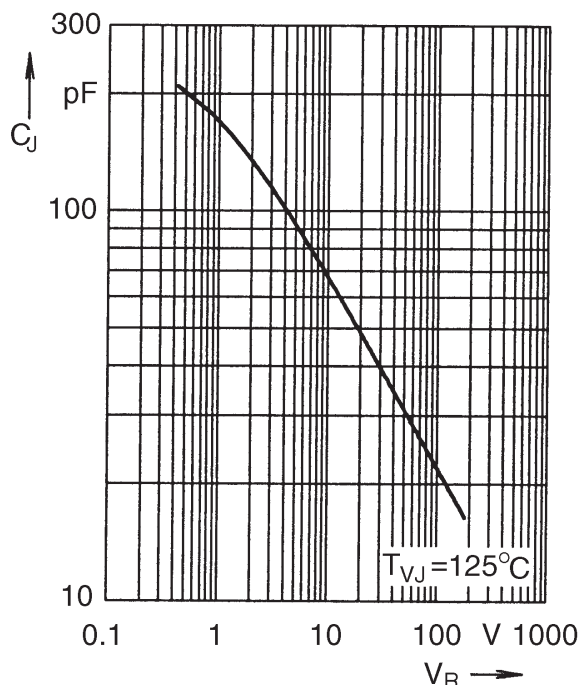


FIG. 2 TYP. JUNCTION CAPACITY VERSUS BLOCKING VOLTAGE

NOTE:

Explanatory comparison for the basic operational behaviour of rectifier diodes and Gallium Arsenide Schottky diodes.

	Rectifier Diode	GaAs Schottky Diodoe
Conduction	by majority + minority carriers	by majority carriers only
forward characteristics	$V_F(I_F)$	$V_F(I_F)$, See Fig 1
turn off characteristics	extraction of excess carriers causes temperature dependant reverse recovery (t_{rr} , I_{RM} , Q_{rr})	reverse current charges junction capacity C_j , see Fig 2; not temperature dependant
turn on characteristics	delayed saturation leads to V_{FR}	no turn on overvoltage peak.