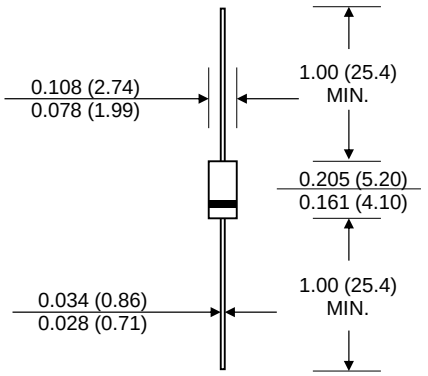
1N4001 - 1N4007

SILICON RECTIFIER DIODES

PRV : 50 - 1300 Volts
Io : 1.0 Ampere

DO - 41



Dimensions in inches and (millimeters)

FEATURES :

* High current capability
* High surge current capability
* High reliability
* Low reverse current
* Low forward voltage drop
* Pb / RoHS Free

MECHANICAL DATA :

* Case : DO-41 Molded plastic
* Epoxy : UL94V-O rate flame retardant
* Lead : Axial lead solderable per MIL-STD-202, Method 208 guaranteed
* Polarity : Color band denotes cathode end
* Mounting position : Any
* Weight : 0.335 gram

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

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

RATING	SYMBOL	1N4001	1N4002	1N4003	1N4004	1N4005	1N4006	1N4007	UNIT
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	50	100	200	400	600	800	1000	V
Maximum RMS Voltage	V_{RMS}	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	V_{DC}	50	100	200	400	600	800	1000	V
Maximum Average Forward Current 0.375"(9.5mm) Lead Length Ta = 75 °C	$I_{F(AV)}$	1.0							A
Maximum Peak Forward Surge Current 8.3ms Single half sine wave Superimposed on rated load (JEDEC Method)	I_{FSM}	30							A
Maximum Forward Voltage at I_F = 1.0 Amp.	V_F	1.1							V
Maximum DC Reverse Current Ta = 25 °C	I_R	5.0							μA
at rated DC Blocking Voltage Ta = 100 °C	$I_{R(H)}$	50							μA
Typical Reverse Recovery Time (I_F = 0.5 A, I_R = 1.0 A, Irr = 0.25 A.)	Trr	2.0							μs
Typical Junction Capacitance (Note1)	C_J	15							pF
Typical Thermal Resistance (Note2)	RθJA	26							°C/W
Junction Temperature Range	T_J	- 65 to + 175							°C
Storage Temperature Range	T_{STG}	- 65 to + 175							°C

Notes : (1) Measured at 1.0 MHz and applied reverse voltage of 4.0VDC
(2) Thermal resistance from Junction to Ambient at 0.375" (9.5mm) Lead Lengths, P.C. Board Mounted.

RATING AND CHARACTERISTIC CURVES (1N4001 - 1N4007)

FIG.1 - DERATING CURVE FOR OUTPUT RECTIFIED CURRENT

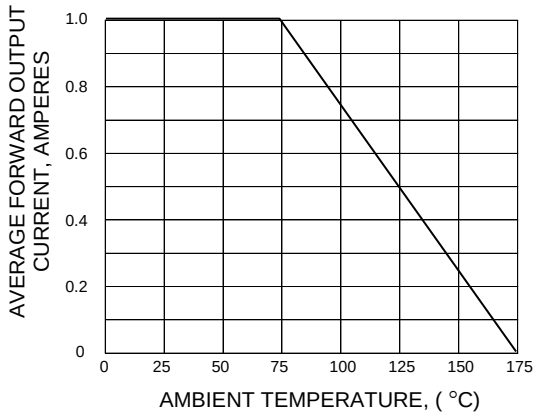


FIG.2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

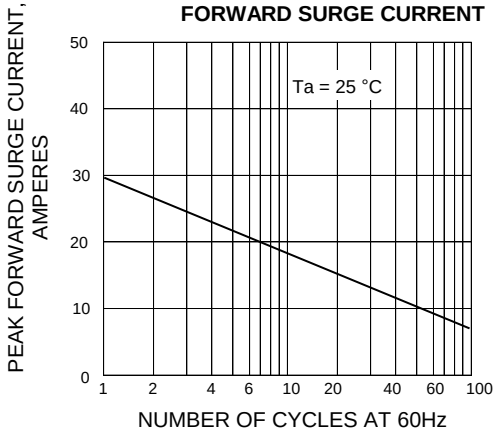


FIG.3 - TYPICAL FORWARD CHARACTERISTICS

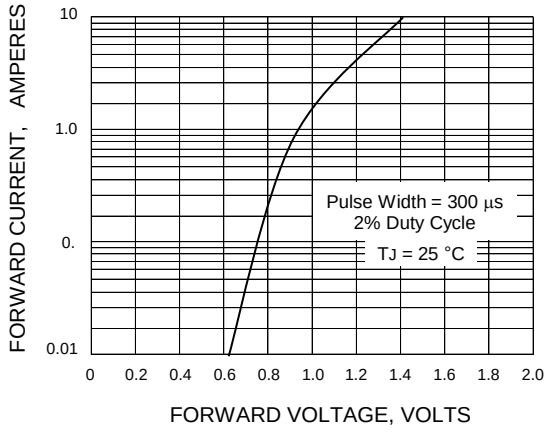


FIG.4 - TYPICAL REVERSE CHARACTERISTICS

