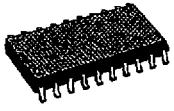
MONOLITHIC TRANSIL® ARRAY FOR DATA LINE PROTECTION

FEATURES

- HIGH SURGE CAPABILITY TRANSIL ARRAY I_{PP} = 40A 8/20µs
- UP TO 18 UNIDIRECTIONAL TRANSIL FUNCTIONS
- BREAKDOWN VOLTAGE = 6V1
- LOW CLAMPING FACTOR (V_{CL}/V_{BR}) AT HIGH CURRENT LEVEL.



SO 20
(Plastic)

DESCRIPTION

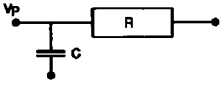
This is a specific Transil Array for Centronics interface protection developed in monolithic chip form in order to provide a high surge capability and a low clamping voltage.

IN ACCORDANCE WITH :

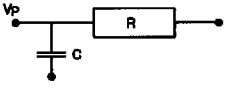
- ESD standard :

. IEC 801-2	15kV	ns / 50ns
. IEC 801-4	40A	5ns / 50ns
. IEC 801-5	1KV	1.2 / 50µs
	25A	8/20µs

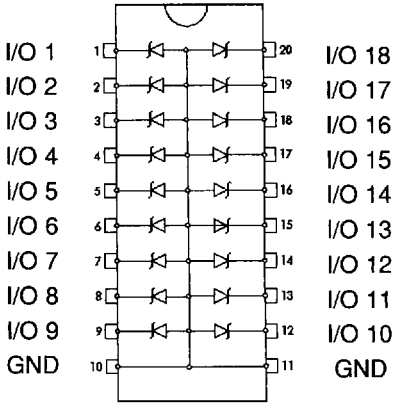
. MIL STD 883C - Methode 3015-2
V_P = 25kV
C = 150pF
R = 150Ω
5 s duration



- Human body test :
V_P = 4kV
C = 150pF
R = 150Ω



FUNCTIONAL DIAGRAM

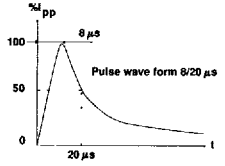


EQUIVALENT TO 18 UNIDIRECTIONAL TRANSILS

ABSOLUTE RATINGS (limiting values) (0°C ≤ Tamb ≤ 70°C)

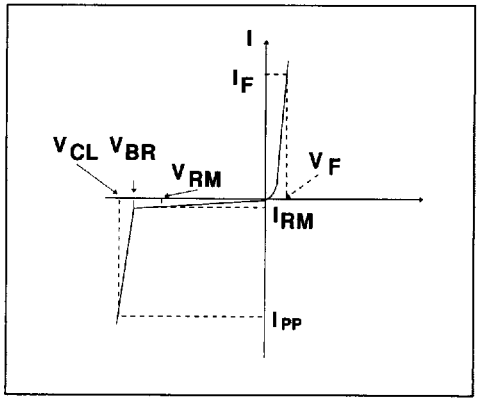
Symbol	Parameter		Value	Unit
I_{pp}	Peak pulse current-8/20 µs	See note	40	A
I_{FSM}	Non repetitive surge peak forward current	t_p= 10 ms	6	
I^2t	Wire I2t value	See note	0.6	A^2s
T_{stg} T_j	Storage and Junction Temperature Range		- 55 to + 150 125	°C °C

Note : For surges greater than the maximum value specified, the device will present first a short circuit to the common bus line and after an open circuit caused by the wire.
These values are for each integrated diode.



ELECTRICAL CHARACTERISTICS

Symbol	Parameter
V_{RM}	Stand-off Voltage
V_{BR}	Breakdown Voltage
V_{CL}	Clamping Voltage
I_{RM}	Leakage Current @ VRM
I_{PP}	Surge Current
C	Input Capacitance
I_F	Forward Current
V_F	Forward Voltage Drop



Types	I_{RM} @ V_{RM} max		V_{BR} @ I_R min note 1		V_{CL} @ I_{pp} max 8/20µs note 1		V_{CL} @ I_{PP} max 8/20µs		V_F @ I_F max	
	µA	V	V	mA	V	A	V	A	V	A
ITA6V1M3	50	5	6.1	1	12	10	14	25	1.5	1

Types	C 1 max note 2	C 2 max note 3	α_T max
	pF	pF	10^{-4}/°C
ITA6V1M3	1100	700	4

All parameters tested at 25°C, except where indicated
Note 1 : Between I/0 pin and ground
Note 2 : Between one input Pin at 0 V Bias and ground pin
Note 3 : Between one input pin at V_{RM} ,and ground pin.

Figure 1 : Peak pulse power versus exponential pulse duration.

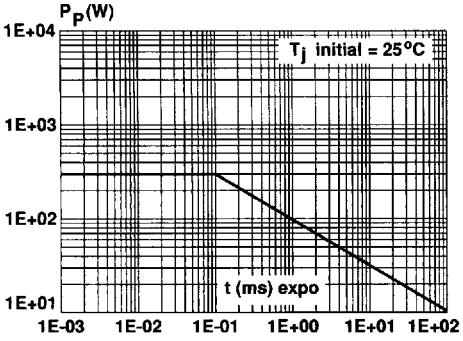


Figure 2 : Clamping voltage versus peak pulse current exponential waveform 8/20µs

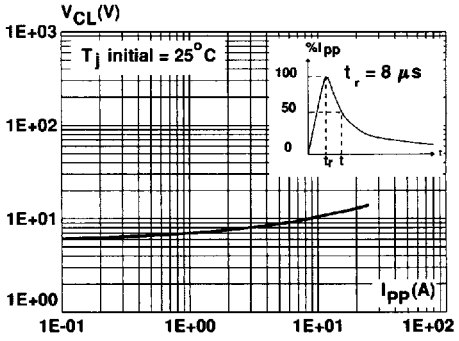


Figure 3 : Peak current I_{DC} inducing open circuit of the wire for one input/output versus pulse duration (typical values) .

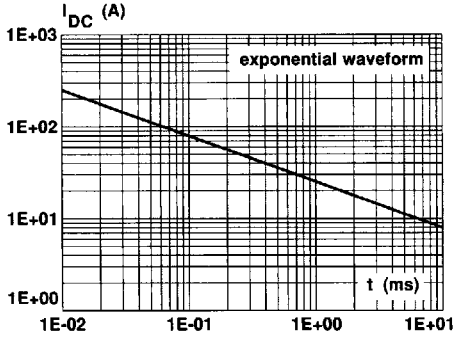
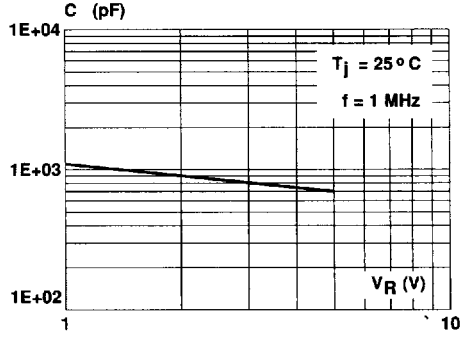
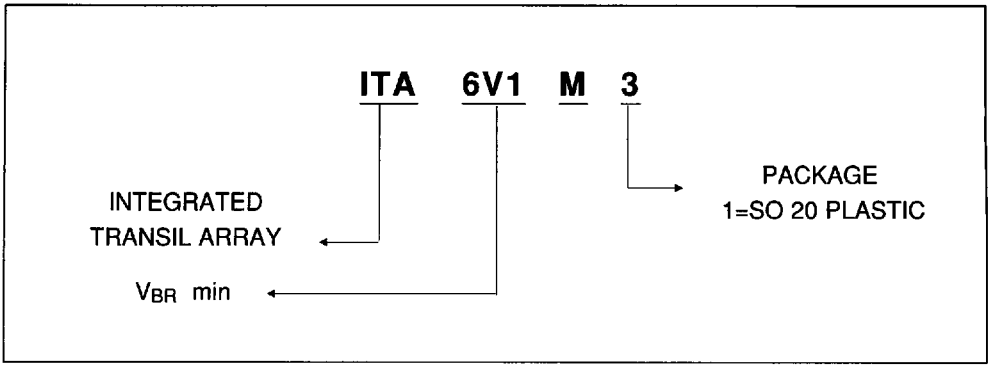


Figure 4 : Junction capacitance versus reverse applied voltage for one input/output (typical values) .



Note : The curve of the figure 2 is specified for a junction temperature of 25° C before the surge

ORDER CODE

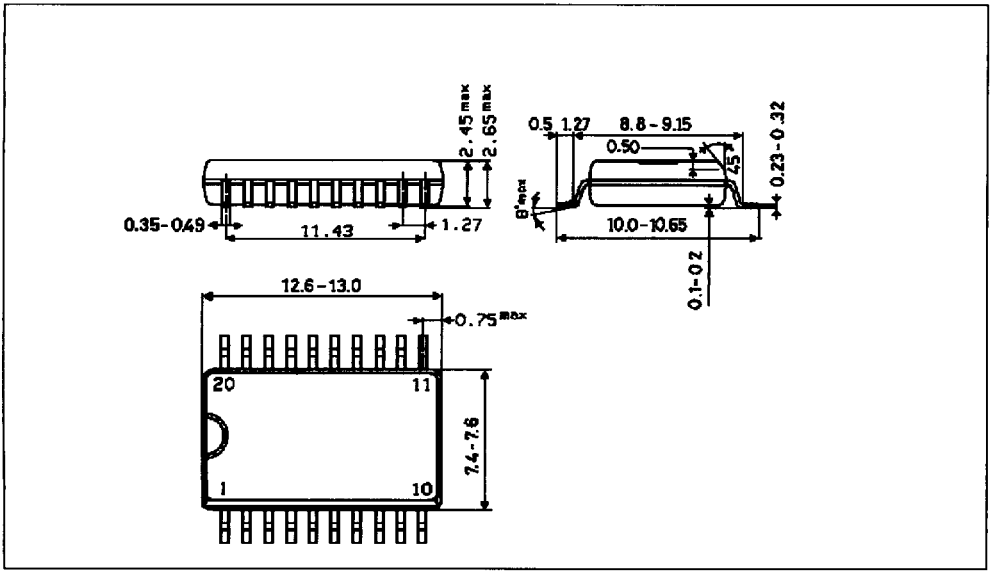


MARKING

TYPE	MARKING
ITA6V1M3	ITA6V1M3

PACKAGE MECHANICAL DATA (in millimeters)

SO 20 Plastic



Packaging : Products supplied in antistatic tubes.