

### III. Fast / Ultra Fast / Super Fast Recovery Rectifier

#### 1.0A Surface Mount Ultra Fast Recovery Rectifier

#### DUS1A~DUS1M

(Package: SOD-123FL)

<p><u>FEATURES</u></p> <ul style="list-style-type: none"> <li>• Low profile space</li> <li>• Glass passivated chip junctions</li> <li>• Low forward voltage drop</li> <li>• Low leakage current</li> <li>• High forward surge capability</li> <li>• High temperature soldering : 250°C/10 seconds at terminals</li> </ul> <p><u>MECHANICAL DATA</u></p> <ul style="list-style-type: none"> <li>• Case : JEDEC SOD-123FL molded plastic body over passivated chip</li> <li>• Terminals : Solder plated, solderable per MIL-STD-750, Method 2026</li> <li>• Polarity : Color band denotes cathode end</li> <li>• Weight : 0.020 grams</li> </ul>	<p style="text-align: center;">Cathode Band Top View</p> <p style="text-align: center;">Case: SOD-123FL Dimensions in inches and (millimetres)</p>
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### Ratings & Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

Single phase half-wave 60 Hz, resistive or inductive load, for capacitive load current derate by 20%.

Characteristics	Symbol	DUS1A	DUS1B	DUS1D	DUS1G	DUS1J	DUS1K	DUS1M	Units
	Marking Code	UA	UB	UD	UG	UJ	UK	UM	
Maximum repetitive peak reverse voltage	$V_{RRM}$	50	100	200	400	600	800	1000	Volts
Maximum RMS voltage	$V_{RMS}$	35	70	140	280	420	560	700	Volts
Maximum DC blocking voltage	$V_{DC}$	50	100	200	400	600	800	1000	Volts
Maximum average forward rectified current	$I_o$	1.0							Amps
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	$I_{FSM}$	25.0							Amps
Maximum instantaneous forward voltage at 1.0 A	$V_F$	1.0		1.4		1.7		Volts	
Maximum DC reverse current at rated DC blocking voltage $T_a = 25^\circ\text{C}$ $T_a = 100^\circ\text{C}$	$I_R$	5.0 100.0							$\mu\text{A}$
Maximum reverse recovery time at $I_F=0.5\text{A}$ , $I_R=1.0\text{A}$ , $I_{RR}=0.25\text{A}$	$T_{rr}$	50				75			ns
Thermal resistance from junction to ambient	$R_{th-JA}$	180							$^\circ\text{C/W}$
Operating junction and storage temperature range	$T_j, T_{stg}$	-55 to +150							$^\circ\text{C}$

# Ratings and Characteristic Curves of DUS1A~DUS1M

AVERAGE FORWARD RECTIFIED CURRENT, AMPERES

FIG. 1- FORWARD CURRENT DERATING CURVE

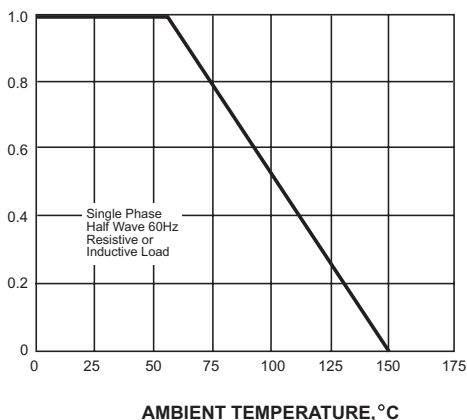


FIG. 2- MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

PEAK FORWARD SURGE CURRENT, AMPERES

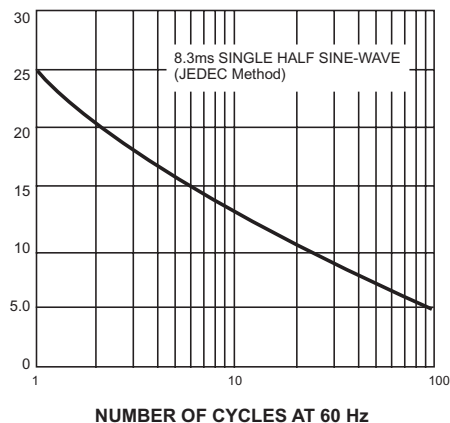


FIG. 3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

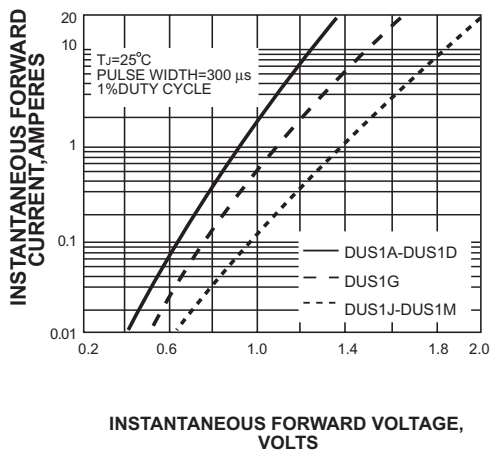


FIG. 4- TYPICAL REVERSE CHARACTERISTICS

INSTANTANEOUS REVERSE CURRENT, MICROAMPERES

