

RoHS Compliant Product  
A suffix of "-C" specifies halogen free

## FEATURES

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Halogen-free type
- Lead less chip form , no lead damage
- Lead-free solder joint , no wire bond & lead frame
- Low power loss , High efficiency
- High current capability , low  $V_F$

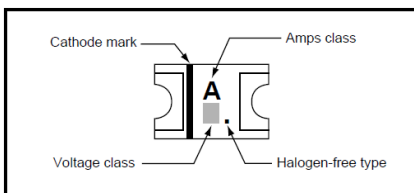
## APPLICATION

- Switching mode power supply applications
- Portable equipment battery applications
- High frequency rectification
- DC / DC Converter
- Telecommunication

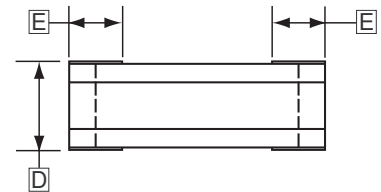
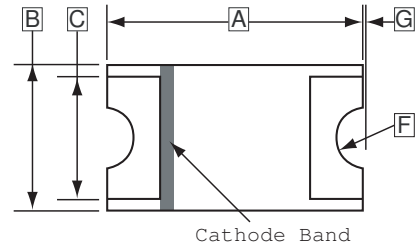
## MECHANICAL DATA

- Case : Packed with FRP substrate and epoxy underfilled
- Terminals : Pure Tin plated (Lead-Free), solderable per MIL-STD-750 , Method 2026.
- Polarity : Laser Cathode band marking
- Weight: 0.005 grams (approximate)

## MARKING



**0805**



REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	1.90	2.10	E	0.40	0.60
B	1.20	1.40	F	R 0.275	
C	1.00 TYP.		G	0.05 REF.	
D	0.85	1.05			

## PACKAGE INFORMATION

PACKAGE	MPQ	Leader Size
0805	3000	7 inch

## ABSOLUTE MAXIMUM RATINGS ( $T_A=25^\circ\text{C}$ unless otherwise specified)

Type Number	Symbol	Part Number			Unit
		MSCD102	MSCD104	MSCD106	
Maximum Recurrent Peak Reverse Voltage	$V_{RRM}$	20	40	60	V
Maximum Average Forward Current	$I_{F(AV)}$	1			A
Peak Forward Surge Current @ 8.3 ms single half sine-wave	$I_{FSM}$	10			A
Junction Temperature Range $T_J$	$T_J$	-55~125		-55~150	$^\circ\text{C}$
Storage Temperature Range $T_{STG}$	$T_{STG}$	-55~150			$^\circ\text{C}$

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

Type Number		Symbol	Min.	Typ.	Max.	Unit	
Forward Voltage <sup>1</sup>	MSCD102	$V_F$	$I_F=0.5\text{A}$	-	0.39	-	V
			$I_F=1\text{A}$	-	0.42	0.45	
	MSCD104		$I_F=0.5\text{A}$	-	0.4	-	
			$I_F=1\text{A}$	-	0.47	0.5	
	MSCD106		$I_F=0.5\text{A}$	-	0.5	-	
			$I_F=1\text{A}$	-	0.62	0.65	
Repetitive peak reverse current <sup>1</sup> @ $V_R=\text{Max. } V_{RRM}, T_A=25^\circ\text{C}$		$I_{RRM}$	-	0.028	0.2	mA	
Junction capacitance @ $V_R=4\text{V}, f=1.0\text{MHz}$		$C_J$	-	115	-	pF	
Typical Thermal Resistance Junction to ambient		$R_{\theta JA}$	-	120	-	$^\circ\text{C} / \text{W}$	
Typical Thermal Resistance Junction to lead		$R_{\theta JL}$	-	28	-	$^\circ\text{C} / \text{W}$	

Note:

1. Pulse test width  $PW=300\mu\text{sec}$ , 1% duty cycle.
2. Mounted on P.C. board with  $0.2 \times 0.2''$  (5.0 x 5.0mm) copper pad areas

**RATINGS AND CHARACTERISTIC CURVES**

FIG.1 - FORWARD CURRENT DERATING CURVE

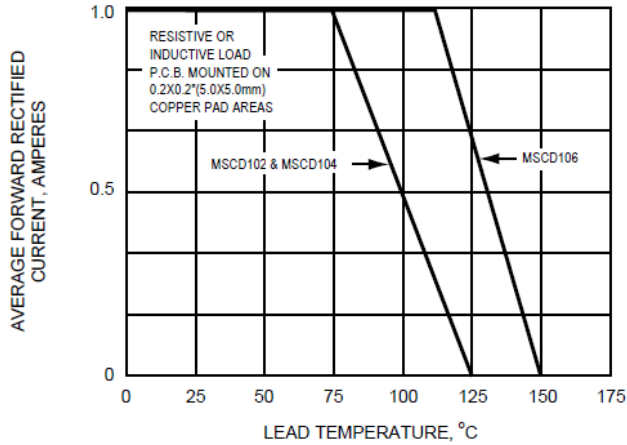


FIG.2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

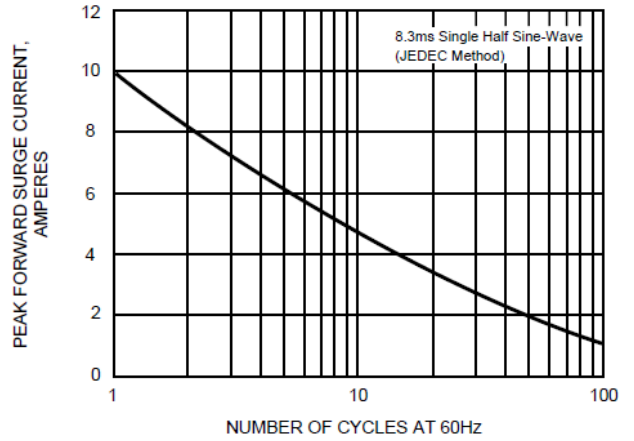


FIG.3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

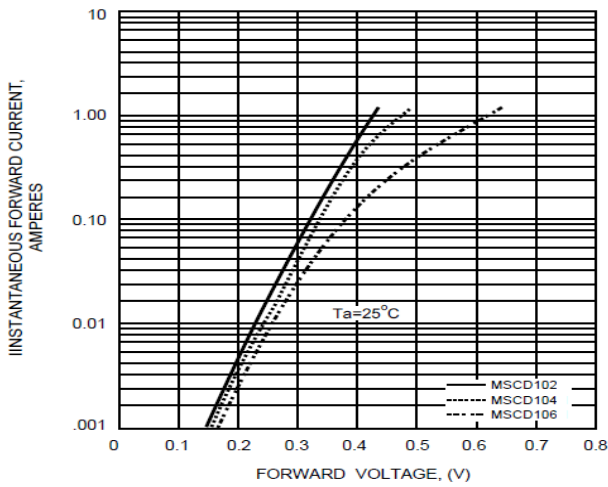


FIG.4 - TYPICAL REVERSE CHARACTERISTICS

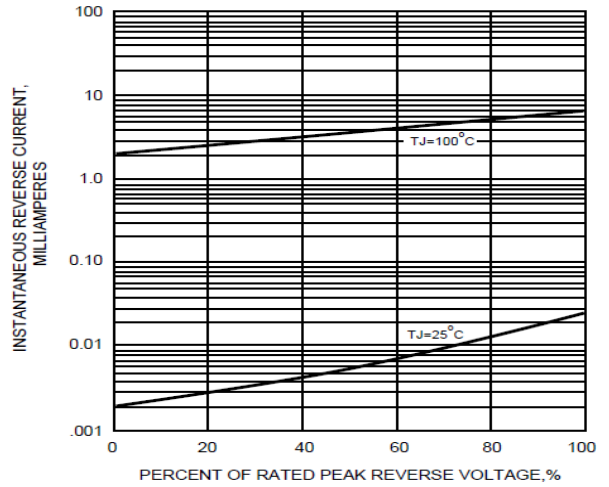


FIG.5 - TYPICAL JUNCTION CAPACITANCE

