

**Thin flat package**  
**MSCD012SH THRU MSCD014SH**

● **FEATURES**

- \* Halogen-free type
- \* Lead free product , compliance to RoHs
- \* 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 VF
- \* Plastic package has Underwriters Laboratory Flammability Classification 94V-0

● **APPLICATION**

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

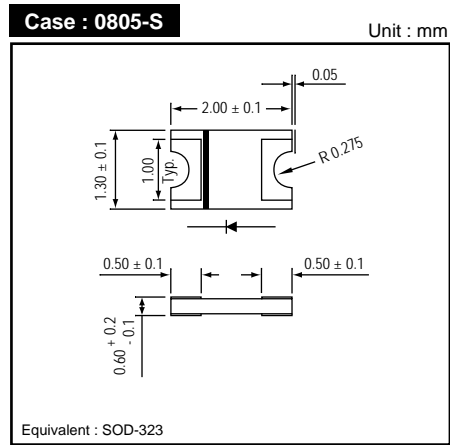
● **MECHANICAL DATA**

**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** : 0.004 gram

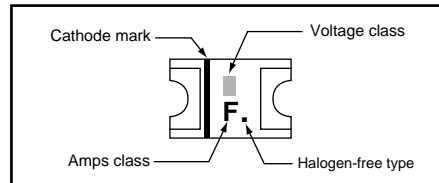
● **PACKING**

- \* 3,000 pieces per 7" (178mm ± 2mm) reel
- \* 5 reels per box
- \* 6 boxes per carton

● **OUTLINE DIMENSIONS**



● **MARKING**

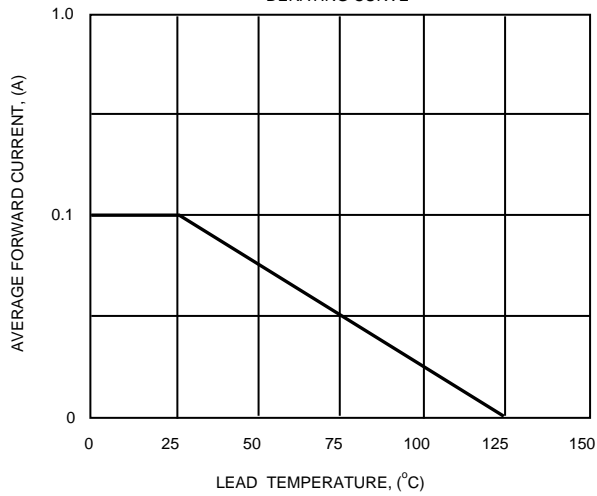
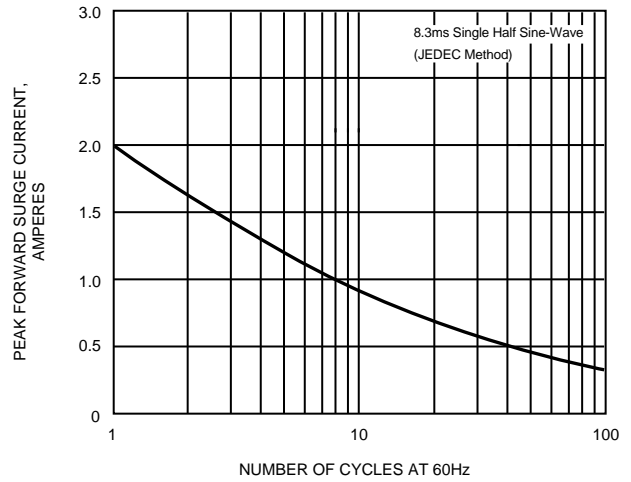
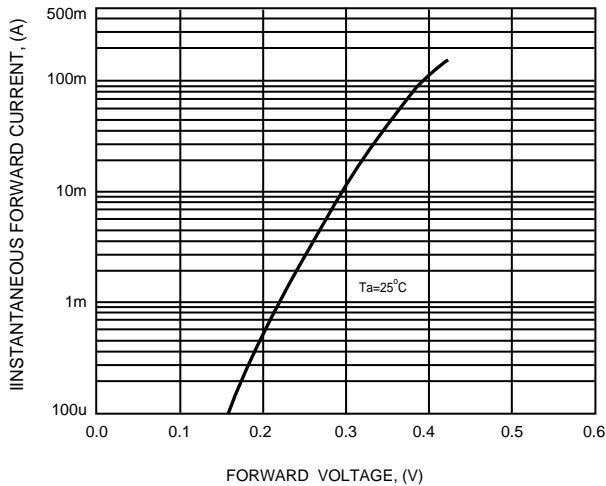
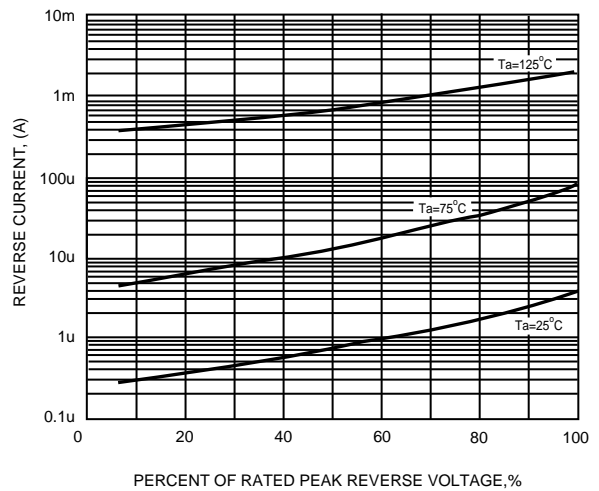


**Absolute Maximum Ratings (Ta = 25 °C)**

ITEM	Symbol	Conditions	Rating		Unit
			MSCD012SH	MSCD014SH	
Repetitive peak reverse voltage	VRRM		20	40	V
Average forward current	IF(AV)		100		mA
Peak forward surge current	IFSM	8.3ms single half sine-wave	2.0		A
junction temperature	Tj		125		°C
Operating temperature range	Topr		-40 to +125		°C
Storage temperature range	TSTG		- 40 to +125		°C

**Electrical characteristics (Ta = 25 °C)**

ITEM	Symbol	Conditions	Type	Min.	Typ.	Max.	Unit
Forward voltage	VF	IF = 1mA	MSCD012SH	-	0.22	-	V
		IF = 10mA		-	0.30	-	
		IF = 100mA		-	0.38	0.45	
		IF = 1mA	MSCD014SH	-	0.25	-	
IF = 10mA	-	0.30		-			
IF = 100mA	-	0.40		0.50			
Repetitive peak reverse current	IRRM	VR = Max. VRRM , Ta = 25 °C		-	4	30	uA
Junction capacitance	Cj	VR = 4V, f = 1.0 MHz		-	18	-	pF
Thermal resistance	Rth(JA)	Junction to ambient		-	160	-	°C/W
	Rth(JL)	Junction to lead		-	110	-	°C/W

**FIG. 1 - TYPICAL 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**
