Elektronische Bauelemente

MSCD052 ~ MSCD054

VOLTAGE 20 V ~ 40 V

0.5 Amp Surface Mount Schottky Barrier Rectifiers

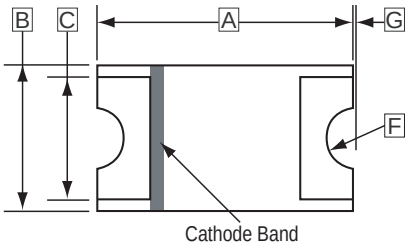
RoHS Compliant Product

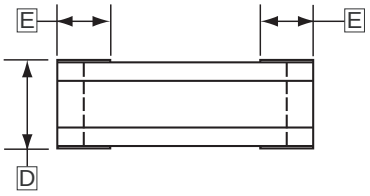
A suffix of “-C” specifies halogen free

0805

FEATURES

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- 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 V_F





APPLICATION

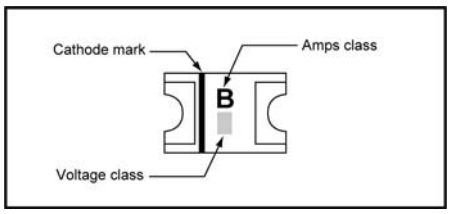
- Switching mode power supply applications
- Portable equipment battery applications
- High frequency rectification
- DC / DC Converter
- Telecommunication

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)

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			

MARKING



PACKAGE INFORMATION

PACKAGE	MPQ	Carton Size
0805	3000	7 inch

ABSOLUTE MAXIMUM RATINGS (T_A = 25°C unless otherwise specified)

TYPE NUMBER	SYMBOL	MSCD052	MSCD053	MSCD054	UNITS
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	20	30	40	V
Maximum Average Forward Current	$I_{F(AV)}$	0.5			A
Peak Forward Surge Current @ 8.3 ms single half sine-wave	I_{FSM}	5			A
Operating Temperature range	Topr	-40 ~ +125			°C
Junction Temperature Range T_J	T_J	125			°C
Storage Temperature Range T_{STG}	T_{STG}	-40 ~ +125			°C

TYPE NUMBER			SYMBOL	Min.	Typ.	Max.	UNITS
Forward Voltage	MSCD052	I_F=0.1A	V_F	-	0.32	-	V
		I_F=0.5A		-	0.40	0.44	
	MSCD053	I_F=0.1A		-	0.32	-	
		I_F=0.5A		-	0.40	0.46	
	MSCD054	I_F=0.1A		-	0.32	-	
		I_F=0.5A		-	0.40	0.48	
Repetitive peak reverse current @ V_R= Max. V_{RRM} , T_A=25°C			I_{RRM}	-	15	100	uA
Junction capacitance @ VR= 4V , f= 1.0 MHz			C_J	-	28	-	pF
Typical Thermal Resistance Junction to ambient			$R_{\theta JA}$	-	120	-	°C / W
Typical Thermal Resistance Junction to lead			$R_{\theta JL}$	-	28	-	°C / W

RATINGS AND CHARACTERISTIC CURVES

FIG. 1 - TYPICAL FORWARD CURRENT DERATING CURVE

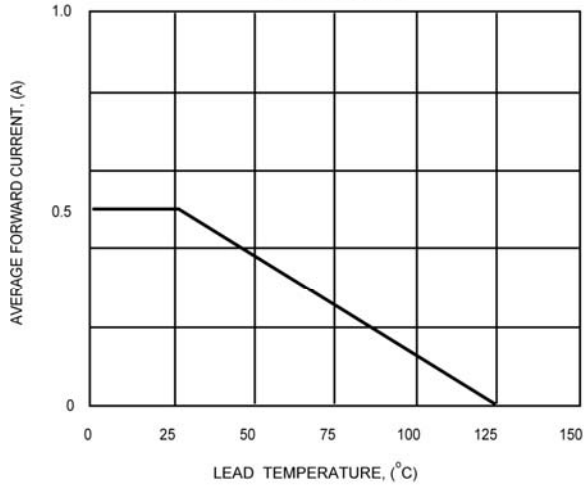


FIG.2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

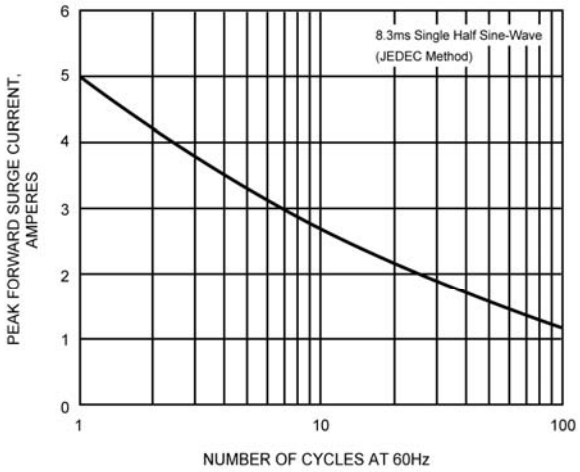


FIG.3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

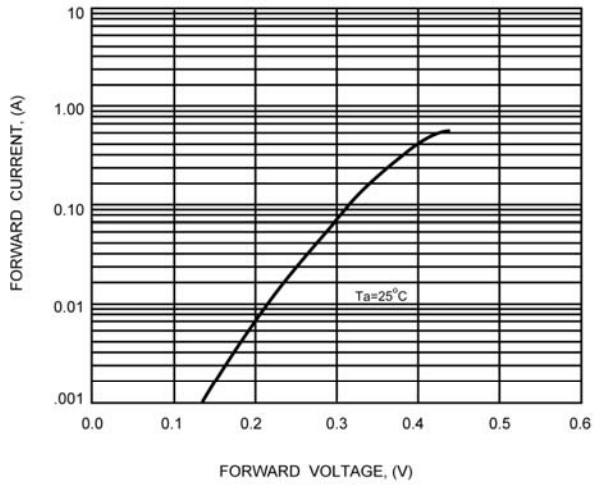


FIG.4 - TYPICAL REVERSE CHARACTERISTICS

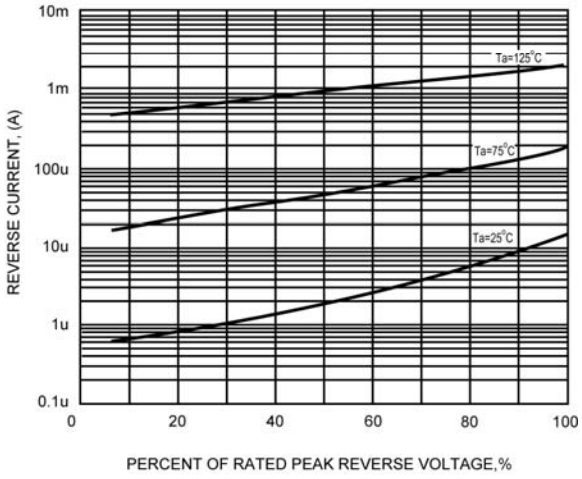


FIG. 5 - TYPICAL JUNCTION CAPACITANCE