MCR20L150CT,MCR20L150FCT

MOS CONTROLLED LOW VF SCHOTTKY RECTIFIERS

VOLTAGE	150 Volts	CURRENT	20 Ampers

FEATURES

- Power pack
- Metal silicon junction ,majority carrier conduction
- Guard ring for overvoltage protection
- Low power loss ,high efficiency
- High current capability ,low forward voltage drop
- High forward surge capability
- High frequency operation
- Solder bath temperature 275℃ maximum，10s，per JESD22-B106
  （for TO-220-3L and ITO-220AB package）
- Component in accordance to RoHS 2011/65/EU

MECHANICAL DATA

- Case: JEDEC TO-220-3L、ITO-220AB
- Molding compound meets UL94V-0 flammability rating
- Terminals: Lead solderable per J-STD-002 and JESD22-B102
- Polarity: As marked
- Mounting Torque: 10 in-lbs maximum

TYPICAL APPLICATIONS

- For use in low voltage ,high frequency inverters ,DC/DC converters,free wheeling ,and polarity protection applications

Marking

TO-220-3L
MCR20L150CT



ITO-220AB
MCR20L150FCT



Maximum Ratings (Ratings at 25℃ ambient temperature unless otherwise specified)

Parameter		Symbol	MCR20L150CT,MCR20L150FCT	Unit
Maximum repetitive peak reverse voltage		V_{RRM}	150	V
Maximum RMS voltage		V_{RMS}	106	V
Maximum DC blocking voltage		V_{DC}	150	V
Maximum average forward rectified current (see fig.1)	Per leg Total device	$I_{F(AV)}$	10 20	A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC method at rated TL)		I_{FSM}	200	A
Peak repetitive reverse current per diode (Note 1)	T_A=25℃ T_A=100℃	I_{RRM}	5 10	uA mA
Storage temperature range		T_{STD}	-55 to +175	℃
Operating junction		T_J	-55 to +175	℃
Isolation voltage(ITO-220AB only)from terminals to heatsink t=1 min		V_{AC}	1500	V

Electrical Characteristcs (Ratings at 25℃ ambient temperature unless otherwise specified)

Parameter	Symbol	Test Conditions		MIN.	TYP.	MAX.	Unit
Instaneous forward voltage per diode(Note 2)	VF	TA=25℃	IF=5.0A	--	0.71	0.73	V
			IF=10.0A	--	0.77	0.80	
		TA=150℃	IF=5.0A	--	--	0.57	
			IF=10.0A	--	--	0.63	
Reverse current per diode(Note 1)	I_{RRM}	VR=150V	TA=25℃	--	3	20	uA
			TA=100℃	--	2	5	mA
			TA=125℃	--	10	20	
Typical junction capacitance(Note 3)	C_J	4V,1MHz		750			pF

Thermal Characteristcs (Ratings at 25℃ ambient temperature unless otherwise specified)

Parameter	Symbol	MCR20L150CT	MCR20L150FCT	Unit
Typical thermal resistance(Note 4)	$R_{\theta JC}$	2.5	4.5	℃/W

Note 1.Pulse test: 300 μs pulse width,1% duty cycle
2.Pulse test: pulse width≤40ms
3.Measured at 1MHz and applied reverse voltage of 4.0V D.C.
4.Thermal resistance from junction to lead vertical P.C.B. mounted , 0.375"(9.5mm)lead length

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SUPER LOW VF SCHOTTKY RECTIFIERS

RATINGANDCHARACTERISTICCURVES

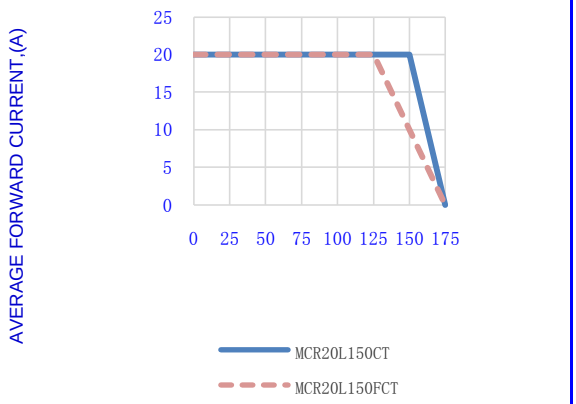


Fig.1-FORWARD CURRENT DERATING CURVE

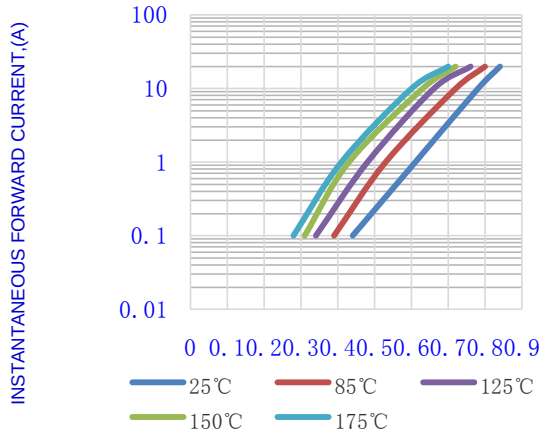


Fig.2- TYPICAL INSTANTANEOUS FORWARD

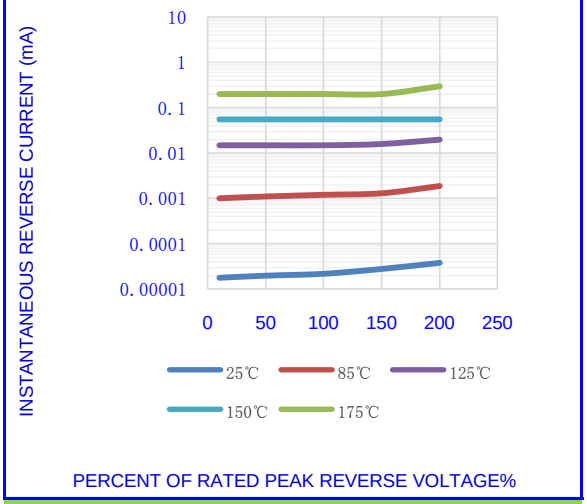


Fig.3- TYPICAL REVERSE CHARACTERISTICS

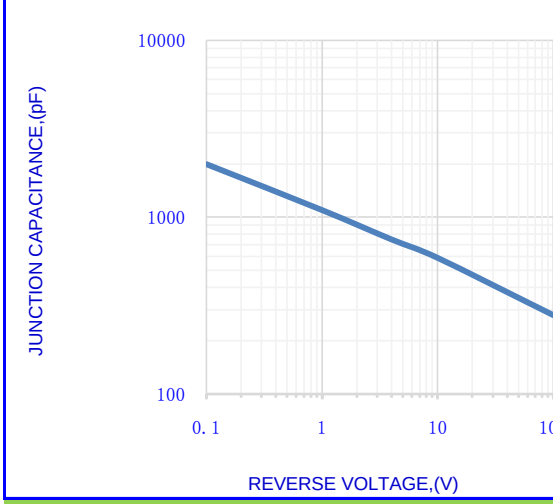


Fig.4- TYPICAL JUNCTION CAPACITANCE

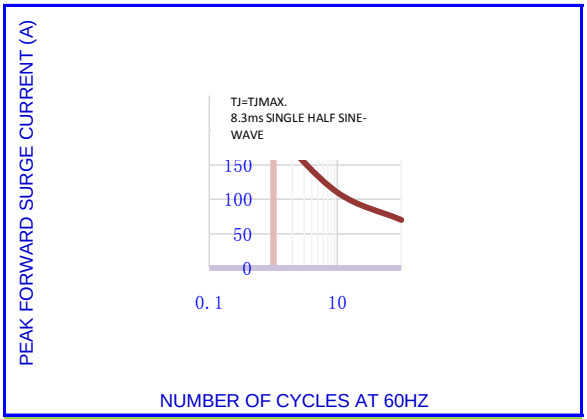


Fig.5-MAX. NON-REPETITIVE SURGE CURRENT

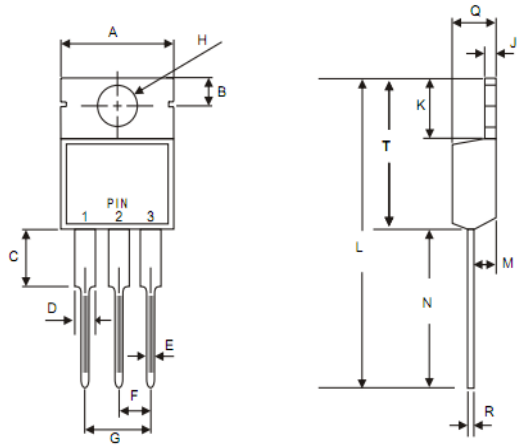
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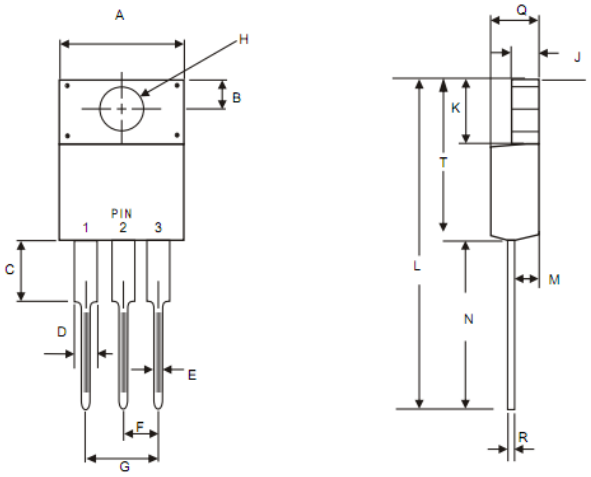
Pb-Free RoHS COMPLIANT

OUTLINE DRAWINGS



OUTLINE DIMENSIONS				
DIM	MILLIME TERS		INCHES	
	MIN.	MAX.	MIN.	MAX.
A	9.910	10.410	0.390	0.410
B	2.600	2.900	0.102	0.114
C	3.500	4.500	0.138	0.177
D	1.100	1.430	0.043	0.056
E	0.680	0.940	0.027	0.037
F	2.410	2.670	0.095	0.105
G	4.880	5.280	0.192	0.208
H	3.740	4.100	0.147	0.161
Q	4.440	4.700	0.175	0.185
J	1.140	1.390	0.045	0.055
K	6.200	7.200	0.244	0.283
L	28.100	29.500	1.106	1.161
M	2.500	2.900	0.098	0.114
N	13.100	14.220	0.516	0.560
R	0.350	0.580	0.014	0.023
T	15.600	16.000	0.614	0.630

TO-220-3L



OUTLINE DIMENSIONS				
DIM	MILLIME TERS		INCHES	
	MIN.	MAX.	MIN.	MAX.
A	9.910	10.410	0.390	0.410
B	2.570	2.830	0.101	0.111
C	3.500	4.500	0.138	0.177
D	1.100	1.430	0.043	0.058
E	0.470	0.730	0.019	0.029
F	2.440	2.640	0.096	0.104
G	4.880	5.280	0.192	0.208
H	3.000	3.400	0.118	0.134
Q	4.250	4.750	0.167	0.187
J	2.810	3.310	0.111	0.130
K	6.500	6.900	0.256	0.272
L	27.500	29.500	1.083	1.161
M	2.600	2.800	0.102	0.110
N	13.000	14.000	1.083	1.161
R	0.470	0.730	0.019	0.029
T	15.000	15.400	0.591	0.606

ITO-220AB

Packing Information

Product code	Pack	Box Size L×W×H(mm)	Quantity(pcs/box)	Carton SizeL×W×H(mm)	Quantity(box/carton)
MCR20L150CT	P/T	550*150*40	1000	580*230*175	5
MCR20L150FCT	P/T	550*150*40	1000	580*230*175	5

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