

Dual Common Cathode Schottky Rectifier

FEATURES

- Low power loss, high efficiency
- Guardring for overvoltage protection
- High surge current capability
- Compliant to RoHS Directive 2011/65/EU and in accordance to WEEE 2002/96/EC
- Halogen-free according to IEC 61249-2-21 definition



TO-220AB



MECHANICAL DATA

Case: TO-220AB

Molding compound, UL flammability classification rating 94V-0

Base P/N with suffix "G" on packing code - halogen-free

Base P/N with prefix "H" on packing code - AEC-Q101 qualified

Terminal: Matte tin plated leads, solderable per JESD22-B102

Meet JESD 201 class 1A whisker test,

with prefix "H" on packing code meet JESD 201 class 2 whisker test

Polarity: As marked

Mounting torque: 5 in-lbs maximum

Weight: 1.9 g (approximately)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T _A =25°C unless otherwise noted)						
PARAMETER	SYMBOL	MBR20L100CT		MBR20L120CT		UNIT
Maximum repetitive peak reverse voltage	V _{RRM}	100		120		V
Maximum RMS voltage	V _{RMS}	70		84		V
Maximum DC blocking voltage	V _{DC}	100		120		V
Maximum average forward rectified current	I _{F(AV)}	20				A
Peak repetitive forward current (Rated VR, Square Wave, 20KHz)	I _{FRM}	20				A
Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load	I _{FSM}	150				A
Peak repetitive reverse surge current (Note 1)	I _{RRM}	1				A
Maximum instantaneous forward voltage (Note 2) I _F = 10A, T _J =25°C I _F = 10A, T _J =125°C I _F = 20A, T _J =25°C I _F = 20A, T _J =125°C	V _F	TYP	MAX	TYP	MAX	V
		0.72	0.75	0.78	0.83	
		0.58	0.68	0.63	0.72	
		0.81	0.85	0.86	0.90	
		0.67	0.75	0.73	0.80	
Maximum reverse current @ rated VR T _J =25 °C T _J =125 °C	I _R	TYP	MAX	TYP	MAX	
		1.10	20	1.00	20	μA
		1.20	15	1.40	10	mA
Voltage rate of change (Rated V _R)	dV/dt	10000				V/μs
Typical thermal resistance	R _{θJC}	2.8		3.0		°C/W
Operating junction temperature range	T _J	- 55 to +150				°C
Storage temperature range	T _{STG}	- 55 to +150				°C

Note 1: tp = 2.0 μs, 1.0KHz

Note 2: Pulse test with PW=300μs, 1% duty cycle

ORDERING INFORMATION					
PART NO.	AEC-Q101 QUALIFIED	PACKING CODE	GREEN COMPOUND CODE	PACKAGE	PACKING
MBR20L1xxCT	Prefix "H"	C0	Suffix "G"	TO-220AB	50 / Tube

Note 1: "xx" defines voltage from 100V (MBR20L100CT) to 120V (MBR20L120CT)

EXAMPLE					
PREFERRED P/N	PART NO.	AEC-Q101 QUALIFIED	PACKING CODE	GREEN COMPOUND CODE	DESCRIPTION
MBR20L100CT C0	MBR20L100CT		C0		
MBR20L100CT C0G	MBR20L100CT		C0	G	Green compound
MBR20L100CTHC0	MBR20L100CT	H	C0		AEC-Q101 qualified

RATINGS AND CHARACTERISTICS CURVES

(TA=25°C unless otherwise noted)

FIG.1 FORWARD CURRENT DERATING CURVE

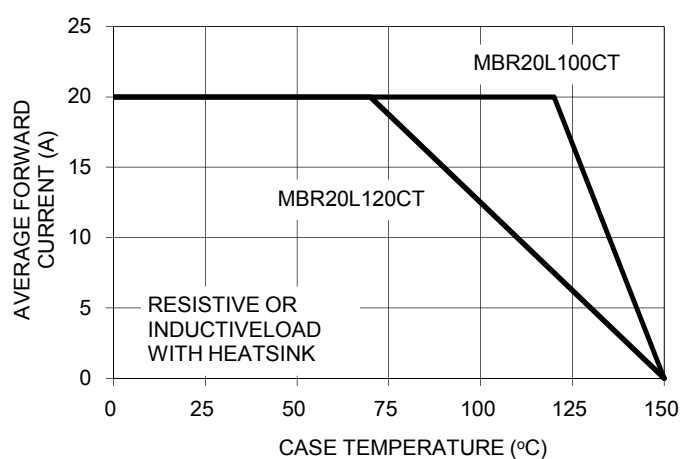


FIG. 2 MAXIMUM FORWARD SURGE CURRENT PER LEG

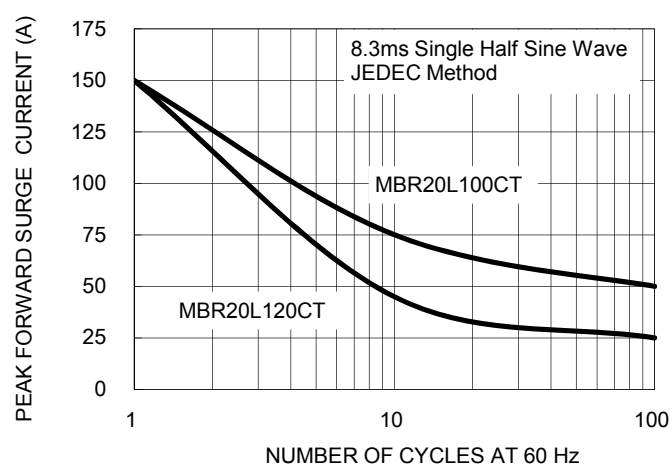


FIG. 3 TYPICAL FORWARD CHARACTERISTICS PER LEG

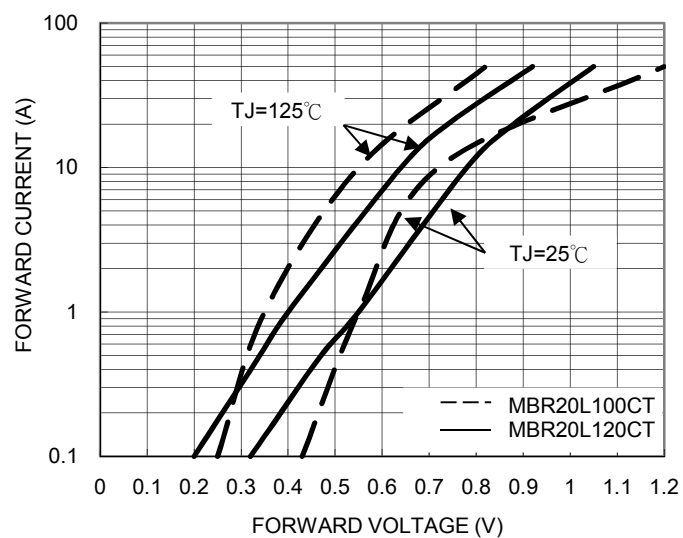


FIG. 4 TYPICAL REVERSE CHARACTERISTICS PER LEG

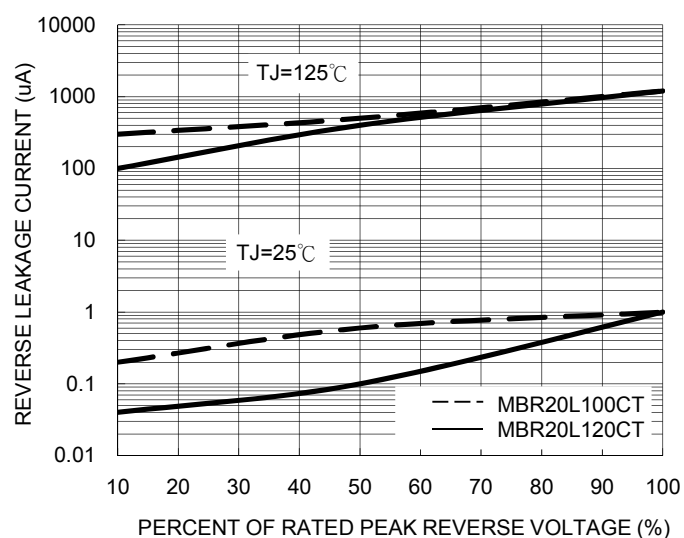


FIG. 5 TYPICAL JUNCTION CAPACITANCE PER LEG

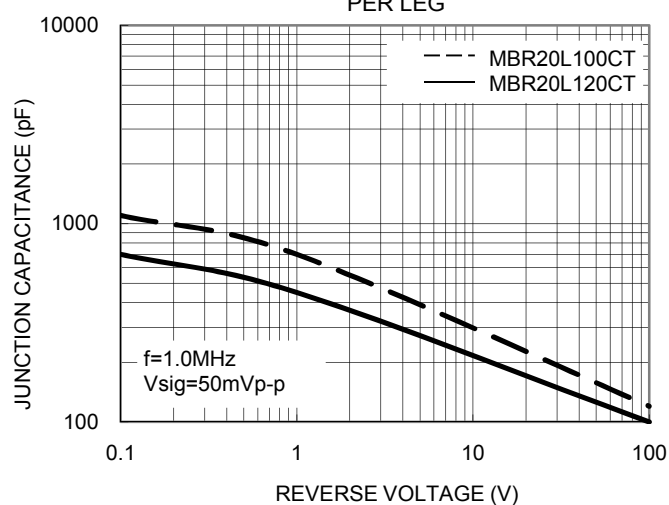
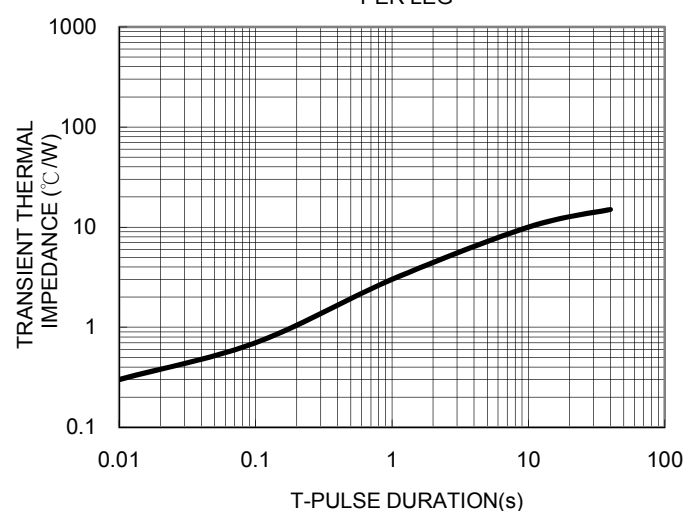
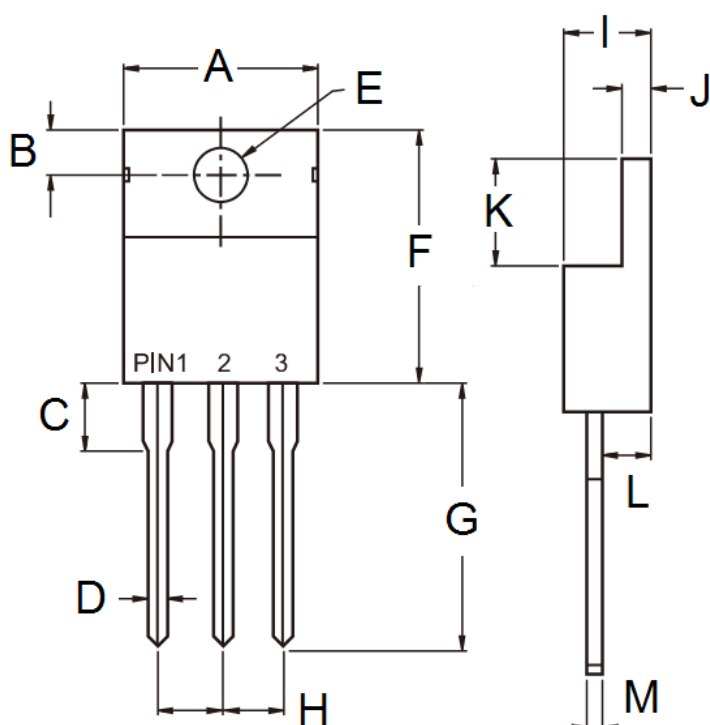


FIG. 6 TYPICAL TRANSIENT THERMAL IMPEDANCE PER LEG

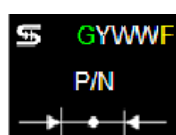


PACKAGE OUTLINE DIMENSIONS



DIM.	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
A	-	10.50	-	0.413
B	2.62	3.44	0.103	0.135
C	2.80	4.20	0.110	0.165
D	0.68	0.94	0.027	0.037
E	3.54	4.00	0.139	0.157
F	14.60	16.00	0.575	0.630
G	13.19	14.79	0.519	0.582
H	2.41	2.67	0.095	0.105
I	4.42	4.76	0.174	0.187
J	1.14	1.40	0.045	0.055
K	5.84	6.86	0.230	0.270
L	2.20	2.80	0.087	0.110
M	0.35	0.64	0.014	0.025

MARKING DIAGRAM



P/N = Specific Device Code
G = Green Compound
YWW = Date Code
F = Factory Code

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