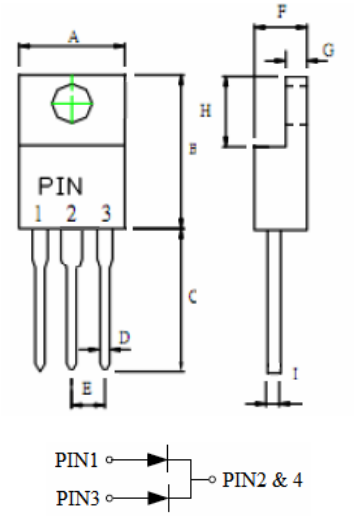
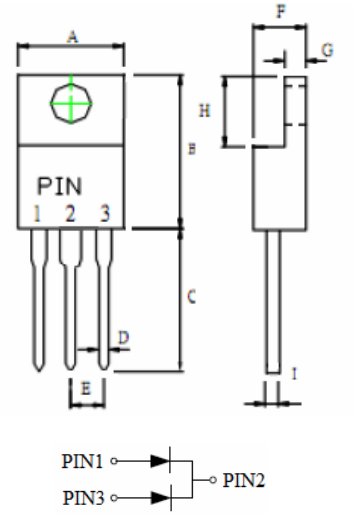
MBR40U100CT & MBR40U100FCT

40A ULTRA LOW VF TRENCH MOS SCHOTTKY RECTIFIERS

TO-220AB



ITO-220AB



PACKAGE	TO-220AB	ITO-220AB
A	10.70MAX	9.50~10.50
B	13.93~15.87	14.5~16.5
C	12.70MIN	13.0~13.9
D	0.50~0.96	0.30~0.90
E	2.54TYP	2.55TYP
F	4.00~5.10	4.2~4.8
G	1.07~1.47	2.5~3.3
H	5.75~6.85	6.3~7.3
I	0.65MAX	0.80MAX
Φ	3.34MIN	3.0~3.6
UNITS	MILLIMETERS	

FEATURES

- EXTREMELY LOW VF
- TRENCH MOS SCHOTTKY TECHNOLOGY
- LOW POWER LOSS / HIGH EFFICIENCY
- HIGH FREQENCY OPERATION
- HIGH FORWARD SURGE CAPABILITY

MECHANICAL DATA

- CASE：TRANSFER MOLDED
- LEADS：SOLDERABLE PER MIL-STD-202, METHOD 208
- POLARITY：AS MARKED
- WEIGHT：2.15 GRAMS (TO-220AB) /1.55 GRAMS (ITO-220AB)
- TERMINALS：PURETIN PLATED

PRIMARY CHARACTERISTIC	
I_O	2X20A
V_{RRM}	100V
I_{FSM}	300A
V_F@20A, T_J=25°C	0.72V
T_{Jmax}	150°C

MAXIMUM RATINGS (T_A =25℃ UNLESS OTHERWISE NOTED) AND ELECTRICAL CHARACTERISTICS

RATINGS	SYMBOL	MBR40U100CT	MBR40U100FCT	UNITS
MAXIMUM RECURRENT PEAK REVERSE VOLTAGE	V_{RRM}	100		V
MAXIMUM RMS VOLTAGE	V_{RMS}	70		V
MAXIMUM DC BLOCKING VOLTAGE	V_{DC}	100		V
MAXIMUM AVERAGE FORWARD RECTIFIED CURRENT SEE FIG.1 PER LEG	I_O	40 20		A
PEAK FORWARD SURGE CURRENT, 8.3ms SINGLE HALF SINE-WAVE SUPERIMPOSED ON RATED LOAD PER LEG	I_{FSM}	300		A
STORAGE TEMPERATURE RANGE	T_{STG}	- 55 TO + 150		℃
OPERATING JUNCTION TEMPERATURE RANGE	T_J	- 55 TO + 150		℃
CHARACTERISTICS	SYMBOL	**MBR40U100CT**	**MBR40U100FCT**	UNITS
MAXIMUM FORWARD VOLTAGE AT I_F= 20A T_J =25℃	VF	0.72		V
MAXIMUM REVERSE CURRENT AT 25℃ PER LEG (NOTE 1)	I_R	0.2		mA
MAXIMUM REVERSE CURRENT AT 125℃ PER LEG (NOTE 1)	I_R	45		mA
PARAMETER	SYMBOL	**MBR40U100CT**	**MBR40U100FCT**	UNITS
TYPICAL THERMAL RESISTANCE JUNCTION TO CASE PER LEG	$R_{\theta jc}$	2.2	4.0	℃/W
ISOLATION VOLTAGE(ITO-220AB ONLY)FROM TERMINAL TO HEATSINK T=1MIN	V_{AC}	/	1500	V

NOTES： 1. PULSE TEST: 300μS PULSE WIDTH, 1% DUTY CYCLE.

RATINGS AND CHARACTERISTIC CURVES

FIG. 1- DERATING CURVE OUTPUT RECTIFIED CURRENT

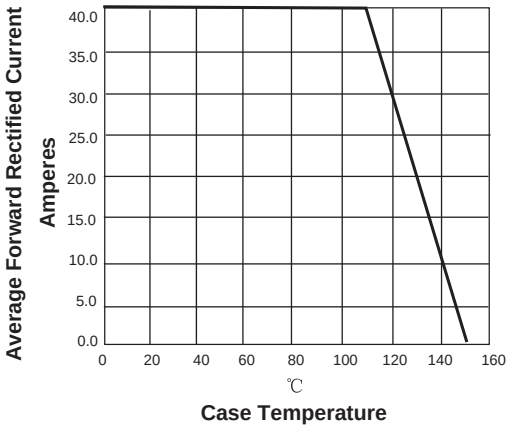


FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT PERLEG

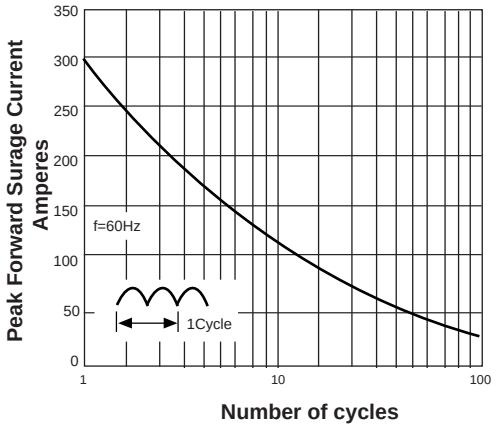


FIG. 3-TYPICAL FORWARD VOLTAGE CHARACTERISTICS

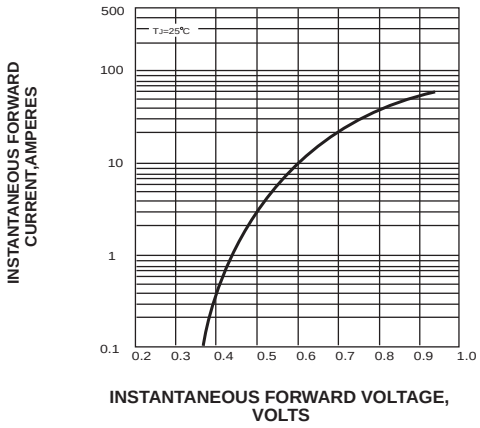
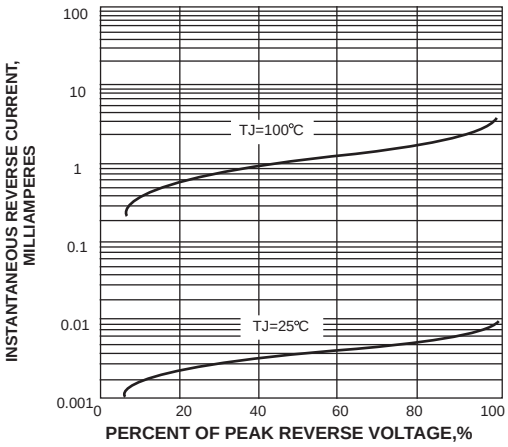


FIG. 4-TYPICAL REVERSE LEAKAGE CHARACTERISTICS



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SUGGESTED THERMAL PROFILES FOR SOLDERING PROCESSES

1. LEAD FREE TEMPERATURE PROFILE WAVE-SOLDERING