

PACKAGE	TO-220AB	ITO-220AB
A	9.57~10.70	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
- LOW STORED CHARGE, MAJORITY CARRIER CONDUCTION
- LOW POWER LOSS / HIGH EFFICIENCY
- UL 94V0 FLAME RETARDANT EPOXY MOLDING COMPOUND

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)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

RATINGS AT 25°C AMBIENT TEMPERATURE UNLESS OTHERWISE SPECIFIED
 SINGLE PHASE, HALF WAVE, 60 HZ, RESISTIVE OR INDUCTIVE LOAD.
 FOR CAPACITIVE LOAD, DERATE CURRENT BY 20%

RATINGS	SYMBOL	MBR20300 CT/FCT	UNITS
MAXIMUM RECURRENT PEAK REVERSE VOLTAGE	V_{RRM}	300	V
MAXIMUM RMS VOLTAGE	V_{RMS}	210	V
MAXIMUM DC BLOCKING VOLTAGE	V_{DC}	300	V
MAXIMUM AVERAGE FORWARD RECTIFIED CURRENT SEE FIG.1 PER LEG	I_O	20 10	A
PEAK FORWARD SURGE CURRENT, 8.3ms SINGLE HALF SINE-WAVE SUPERIMPOSED ON RATED LOAD PER LEG	I_{FSM}	150	A
STORAGE TEMPERATURE RANGE	T_{STG}	- 55 TO + 150	°C
OPERATING JUNCTION TEMPERATURE RANGE	T_J	- 55 TO + 125	°C

ELECTRICAL CHARACTERISTICS

CHARACTERISTICS	SYMBOL	MBR20300 CT/FCT	UNITS
MAXIMUM FORWARD VOLTAGE AT $I_f=10A$ $T_j=25^\circ C$	VF	1.05	V
MAXIMUM REVERSE CURRENT AT 25°C PER LEG (NOTE 1)	I_R	0.050	mA
MAXIMUM REVERSE CURRENT AT 125°C PER LEG (NOTE 1)	I_R	10	mA

THERMAL CHARACTERISTICS ($T_c = 25^\circ C$ UNLESS OTHERWISE NOTED)

PARAMETER	SYMBOL	MBR20300CT	MBR20300FCT	UNITS
TYPICAL THERMAL RESISTANCE JUNCTION TO CASE PER LEG (NOTE 2)	$R_{\theta jc}$	2	4	°C/W

- NOTES : 1. PULSE TEST: 300μS PULSE WIDTH, 1% DUTY CYCLE.
 2. Device mounted on additional heatsink, (50mm x 50mm x 23mm Al heatsink).

Rating and characteristic curves

FIG. 1- DERATING CURVE OUTPUT RECTIFIED CURRENT

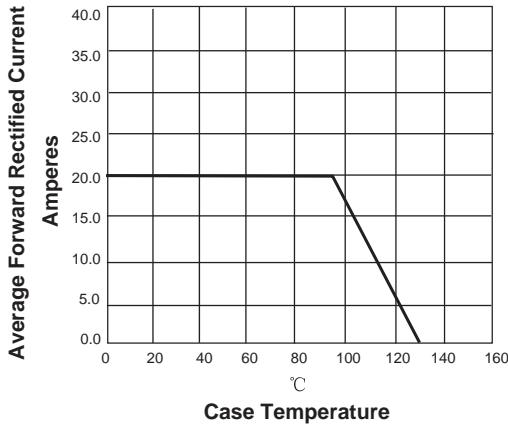


FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT PER LEG

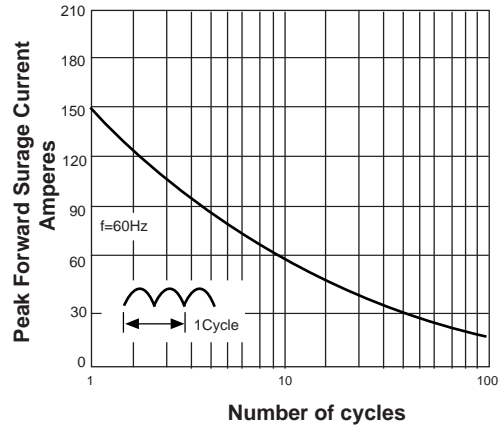


FIG. 3-TYPICAL FORWARD VOLTAGE CHARACTERISTICS

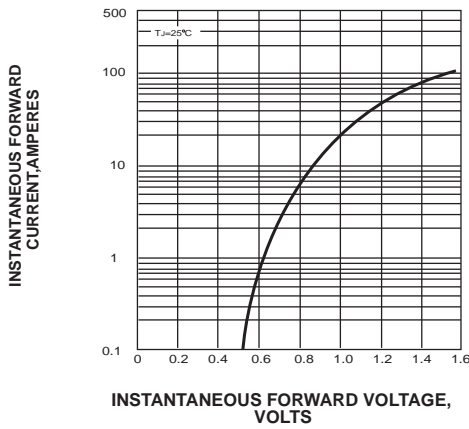
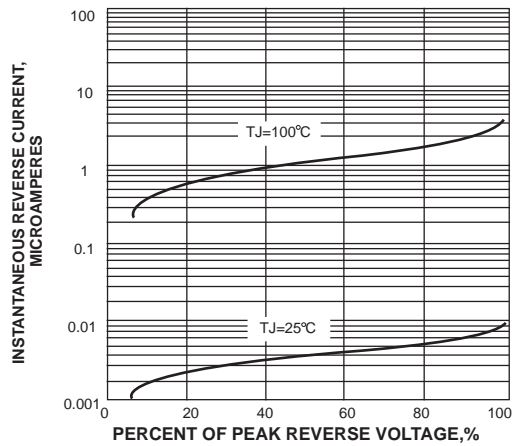


FIG. 4-TYPICAL REVERSE LEAKAGE CHARACTERISTICS



SUGGESTED THERMAL PROFILES FOR SOLDERING PROCESSES

1. LEAD FREE TEMPERATURE PROFILE WAVE-SOLDERING

