

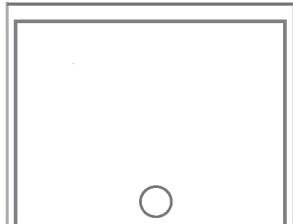
■ DESCRIPTION

The MBT1040DT is a Schottky Barrier Rectifier with high efficiency, low power dissipation and high current capacity. It can be applied in high frequency, low voltage inverters, polarity protection and free wheeling applications.

■ FEATURE

- * High surge capability
- * High efficiency, low power dissipation, high current capability, low forward voltage drop
- * Guardring for overvoltage protection

■ MARKING



■ ABSOLUTE MAXIMUM RATINGS(TA=25°C, unless otherwise specified.)

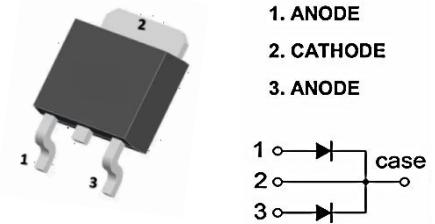
PARAMETER	SYMBOL	RATINGS	UNIT
DC Blocking Voltage	VRM	40	V
Working Peak Reverse Voltage	VRWM	40	V
Peak Repetitive Reverse Voltage	VRRM	40	V
RMS Reverse Voltage	VR(RMS)	31.5	V
Average Rectified Output Current (TC=105°C)	Per Leg IO	5	A
Total		10	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	IFSM	100*2	A
Operating Junction Temperature	T _J	+150	°C
Storage Temperature	T _{STG}	-55 ~ +150	°C

Note: 1. Single phase, half wave, 60Hz, resistive or inductive load. For capacitance load, derate current by 20%.

2. Absolute maximum ratings are those values beyond which the device could be permanently damaged.

Absolute maximum ratings are stress ratings only and functional device operation is not implied.

3. Thermal resistance junction to case mounted on heatsink.



■ THERMAL DATA

PARAMETER	SYMBOL	RATINGS	UNIT
Junction to Ambient	θ_{JA}	60	°C/W
Junction to Case	θ_{JC}	4	°C/W

■ ELECTRICAL CHARACTERISTICS (TA=25°C, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Reverse Breakdown Voltage (Note 1)	$V(BR)R$	$I_R=0.45mA$	40			V
Forward Voltage Drop	V_{FM}	$I_F=5A$			0.55	V
Leakage Current (Note 1)	I_{RM}	$V_R=45V$			200	μA

Notes: 1. Short duration pulse test used to minimize self-heating effect.

2. Thermal resistance junction to case mounted on heatsink.

■ TYPICAL CHARACTERISTICS

FIG.1: FORWARD CURRENT DERATING CURVE

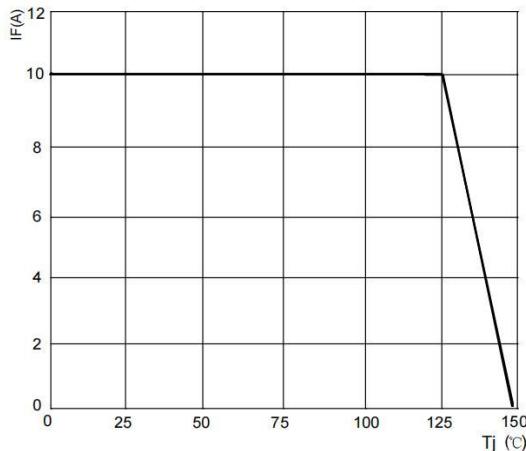


FIG.2: TYPICAL FORWARD CHARACTERISTICS

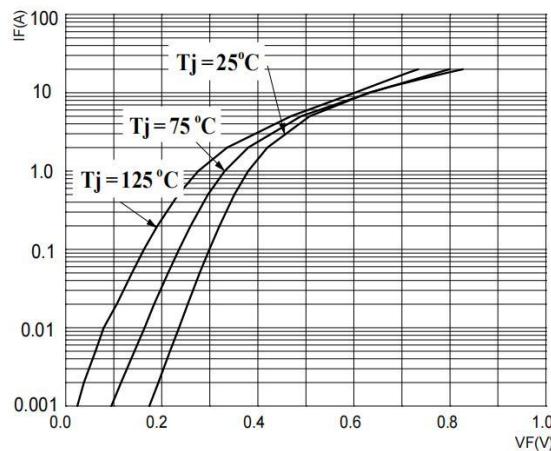


FIG.3: TOTAL CAPACITANCE DERATING CURVE

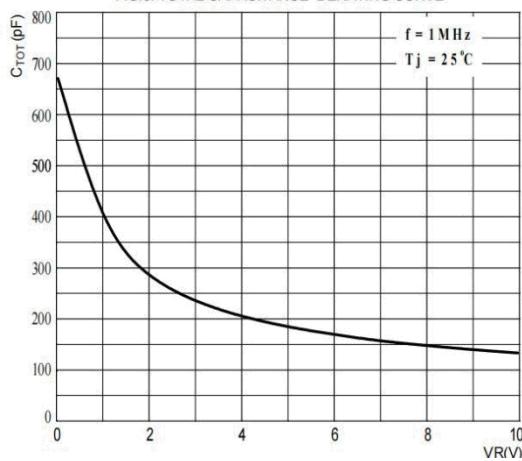
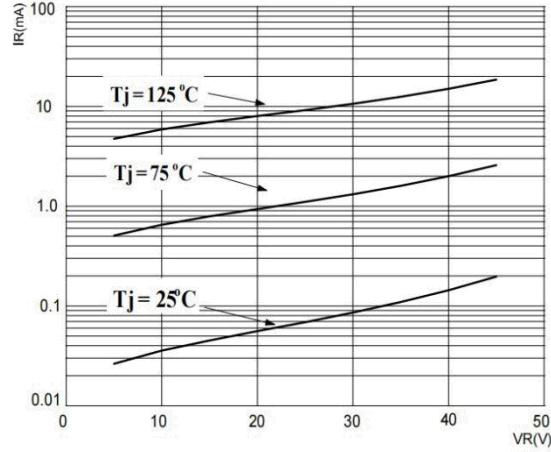


FIG.4: TYPICAL REVERSE CHARACTERISTICS



■ TO - 252 Package Outline Dimensions

