



Maximum Ratings and Electrical Characteristics

(T_c = 25°C unless otherwise noted)

MAXIMUM RATINGS and ELECTRICAL CHARACTERISTICS(TC=25°C unless otherwise noted)					
PARAMETER	TEST CONDITIONS		SYMBOL	MBRF1045CT	UNIT
Maximum repetitive peak reverse voltage			VRRM	45	V
Working peak reverse voltage			VRWM	45	V
Maximum DC blocking voltage			VDC	45	V
Maximum average forward rectified current at Tc=105°C total device per diode			IF(AV)	10 5	A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load per diode			IFSM	125	A
Peak repetitive reverse current per leg at tp=2.0us , 1KHz			IRRM	0.5	A
Voltage rate of change (rated VR)			DV/dt	10000	V/us
Operating junction temperature range			TJ	-55 to+150	°C
Storage temperature range			TSTG	-55 to+150	°C
Isolation voltage (TO220F only) from terminal to heatsink t = 1 sec			VAC	1500	V
Maximum instantaneous forward voltage per leg	IF=5A IF=5A	TC=25°C TC=125°C	VF	0.70 0.65	V
Maximum reverse current per leg at working peak Reverse voltage	TJ=25°C TJ=100°C		IR	100 15	uA mA

Thermal Characteristics Ta=25°C unless otherwise noted

Symbol	Parameter	Max	Unit
RθJC	Thermal Resistance, Junction to Case per Leg	4.0	°C /W
RθJA	Thermal Resistance, Junction to Ambient per Leg	62.5	°C /W

Note:

1. Screw mounting with 4-40 screw, where washer diameter is ≤4.9mm(0.19 ")
2. Pulse test:300us pulse width,1% duty cycle



RATINGS AND CHARACTERISTIC CURVES

($T_A = 25^\circ\text{C}$ unless otherwise noted)

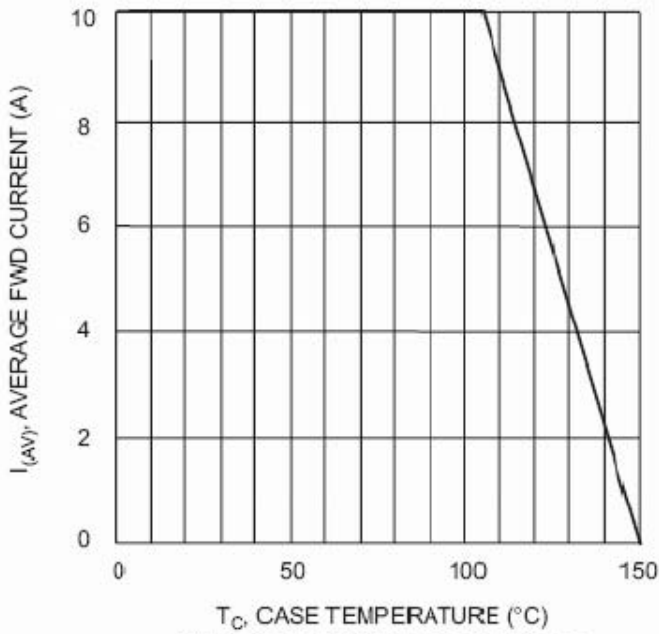


Fig. 1 Forward Current Derating Curve

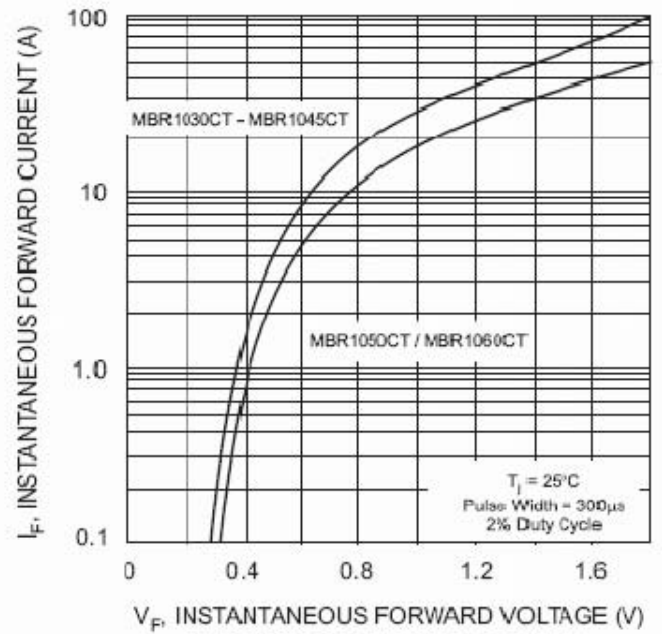


Fig. 2 Typical Forward Characteristics

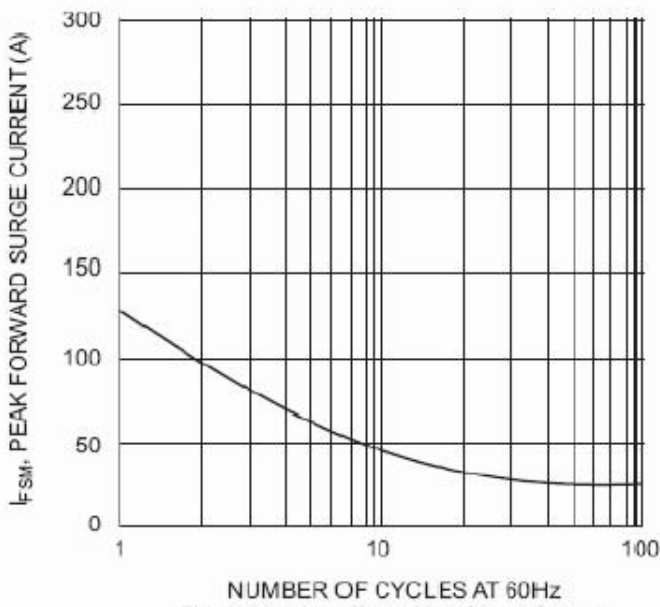


Fig. 3 Max Non-Repetitive Surge Current

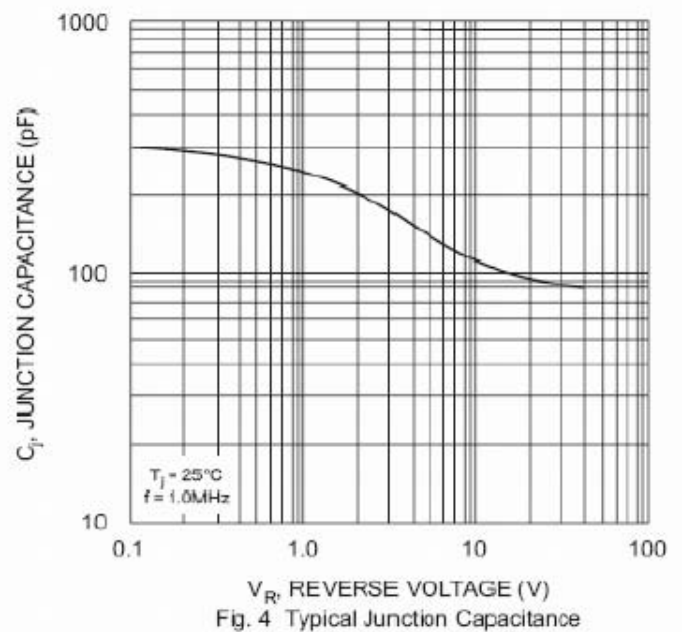


Fig. 4 Typical Junction Capacitance