

MBRS2535CT - MBRS25150CT

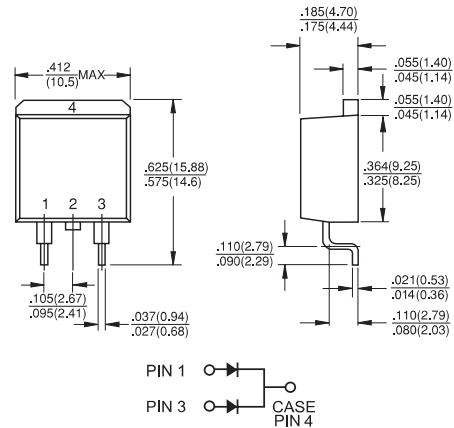
25 AMPS. Surface Mount Schottky Barrier Rectifiers

D²PAK



Features

- ✧ For surface mounted application
- ✧ Plastic material used carries Underwriters Laboratory Classifications 94V-0
- ✧ Metal silicon junction, majority carrier conduction
- ✧ Low power loss, high efficiency
- ✧ High current capability, low forward voltage drop
- ✧ High surge capability
- ✧ For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications
- ✧ Guardring for overvoltage protection
- ✧ High temperature soldering guaranteed:
260°C/10 seconds at terminals



Mechanical Data

- ✧ Cases: JEDEC D²PAK molded plastic
- ✧ Terminals: Pure tin plated, lead free. solderable per MIL-STD-750, Method 2026
- ✧ Polarity: As marked
- ✧ Mounting position: Any
- ✧ Mounting torque: 5 in. - lbs. max
- ✧ Weight: 0.06 ounce, 1.70 grams

Dimensions in inches and (millimeters)

Maximum Ratings and Electrical Characteristics

Rating 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%

Type Number	Symbol	MBRS 2535 CT	MBRS 2545 CT	MBRS 2550 CT	MBRS 2560 CT	MBRS 2590 CT	MBRS 25100 CT	MBRS 25150 CT	Units
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	35	45	50	60	90	100	150	V
Maximum RMS Voltage	V_{RMS}	24	31	35	42	63	70	105	V
Maximum DC Blocking Voltage	V_{DC}	35	45	50	60	90	100	150	V
Maximum Average Forward Rectified Current at $T_C=130^{\circ}C$	$I_{(AV)}$	25							A
Peak Repetitive Forward Current (Rated V_R , Square Wave, 20KHz) at $T_C=130^{\circ}C$	I_{FRM}	25							A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I_{FSM}	200							A
Peak Repetitive Reverse Surge Current (Note 1)	I_{RRM}	1.0		0.5					A
Maximum Instantaneous Forward Voltage at (Note 2) $I_F=12.5A, T_C=25^{\circ}C$ $I_F=12.5A, T_C=125^{\circ}C$ $I_F=25A, T_C=25^{\circ}C$ $I_F=25A, T_C=125^{\circ}C$	V_F	0.82 0.73 — —	0.75 0.65 — —		— 0.85 0.75 0.92 0.88		0.95 0.92 1.02 0.98		V
Maximum Instantaneous Reverse Current @ $T_C=25^{\circ}C$ at Rated DC Blocking Voltage Per Leg @ $T_C=125^{\circ}C$ (Note 2)	I_R	0.2 15	0.2 10		0.1 7.5		0.1 5		mA mA
Voltage Rate of Change, (Rated V_R)	dV/dt	10,000							V/ μ S
Maximum Thermal Resistance Per Leg (Note 3)	$R_{\theta JC}$	1.0							$^{\circ}C/W$
Operating Junction Temperature Range	T_J	-65 to +150							$^{\circ}C$
Storage Temperature Range	T_{STG}	-65 to +175							$^{\circ}C$

Notes:

1. 2.0us Pulse Width, $f=1.0$ KHz
2. Pulse Test: 300us Pulse Width, 1% Duty Cycle
3. Thermal Resistance from Junction to Case Per Leg

RATINGS AND CHARACTERISTIC CURVES (MBRS2535CT THRU MBRS25150CT)

FIG.1- FORWARD CURRENT DERATING CURVE

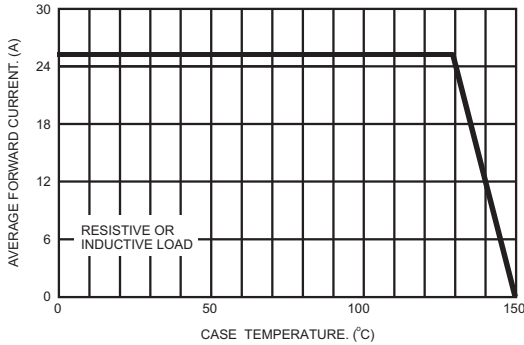


FIG.2- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

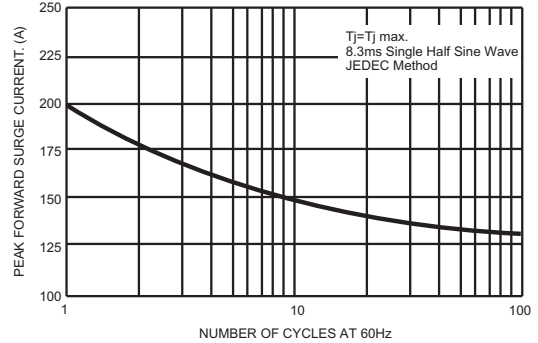


FIG.3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS PER LEG

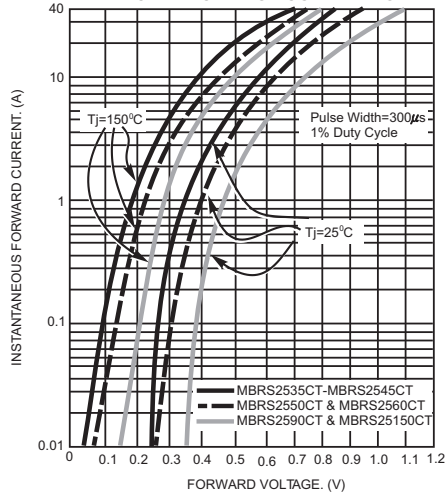


FIG.4- TYPICAL REVERSE CHARACTERISTICS PER LEG

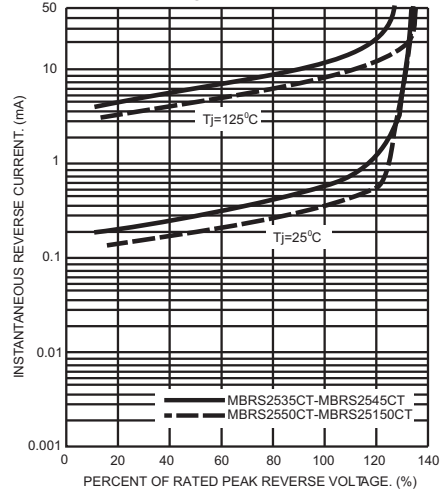


FIG.5- TYPICAL JUNCTION CAPACITANCE PER LEG

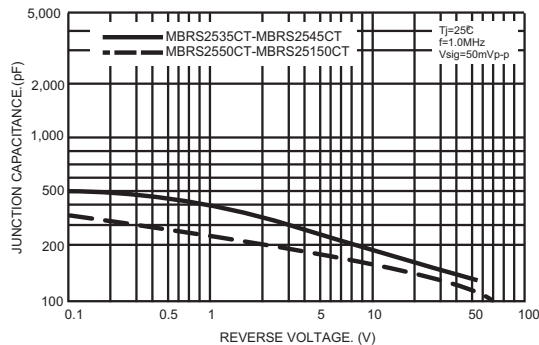


FIG.6- TYPICAL TRANSIENT THERMAL IMPEDANCE PER LEG

