P10V45

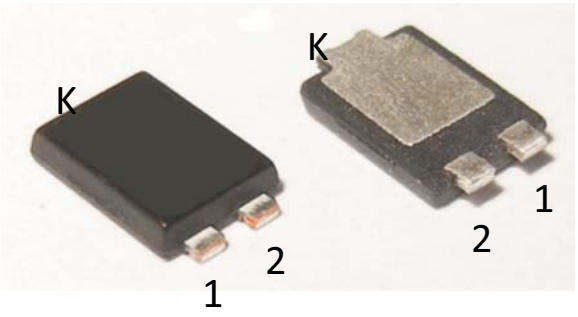
10A 45V MOS Schottky Rectifier

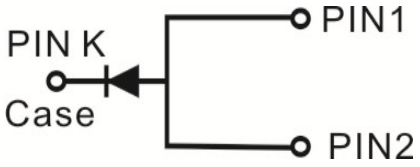
Major ratings and characteristics

Characteristics	Values	Units
$I_{F(AV)}$ Rectangular Waveform	10	A
V_{RRM}	45	V
V_F@ 10A , Tj=125 °C	0.39	V, typ.
T_J Operating Junction Temperature	-65 to +150	°C

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Features

- Ultra Low Forward Voltage Drop
- Reliable High Temperature Operation
- Softest, fast switching capability
- 150°C Operating Junction Temperature
- Lead Free Finish, RoHS Compliant
- Green Molding Compound (No Br, Sb)

Typical Applications

Device optimized for ultra-low forward voltage drop to maximize efficiency in Power Supply applications

1. Characteristics

Maximum Ratings Characteristics (T_A = 25 °C unless otherwise specified)

Parameter	Symbol	Values	Units
DC Blocking Voltage	V_{RM}	45	Volts
Working Peak Reverse Voltage	V_{RWM}		
Peak Repetitive Reverse Voltage	V_{RRM}		
Average Rectified Forward Current Per device (Rated VR-20Khz Square Wave) - 50% duty cycle	I_o	10	Amps
Peak Forward Surge Current - 1/2 60hz	I_{FSM}	275	Amps
Peak Repetitive Reverse Surge Current (2uS-1Khz)	I_{RRM}	2	Amps
Typical Thermal Resistance			°C / W
Thermal Resistance junction to Ambient Note (1)	$R\theta_{JA}$	72	
Thermal Resistance junction to Ambient Note (2)	$R\theta_{JA}$	30	
Maximum Rate of Voltage Change (at Rated VR)	dv/dt	10000	V/uS
Operating Junction Temperature	T_J	- 65 to +150	°C
Storage Junction Temperature	T_{STG}	- 65 to +150	

Electrical Characteristics - (per leg) (T_A = 25 °C unless otherwise specified)

Parameter	Test Conditions		Symbol	Typ.	Max.	Units
Instantaneous Forward Voltage	IF = 10 A	T_J = 25 °C	VF*	----	0.47	Volts
		T_J = 125 °C		0.39	0.42	
Instantaneous Reverse Current	At V_{RM}	T_J = 25 °C	IR*	----	300	uA
		T_J = 125 °C		----	75	mA

* Pulse width < 300 uS, Duty cycle < 2%

Note 1. FR-4 PCB, 2 oz Copper. Minimum recommended pad layout

Note 2. Polymide PCB, 2 oz Copper. Cathode pad dimensions 18.8x14.4mm , Anode pad dimensions- (5.6x14.4mm)

2. Characteristics Curves

Ratings and Characteristics Curves (TA = 25℃ unless otherwise specified)

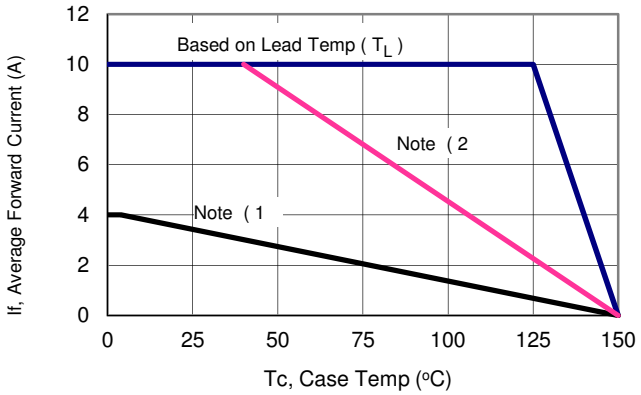


Figure 1: Current Derating, Case

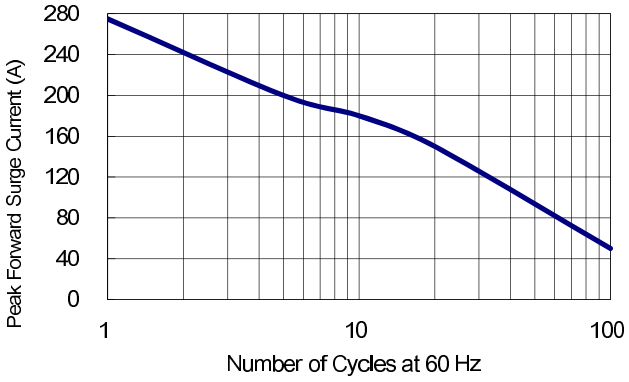


Figure 2: Maximum Repetitive Surge Current

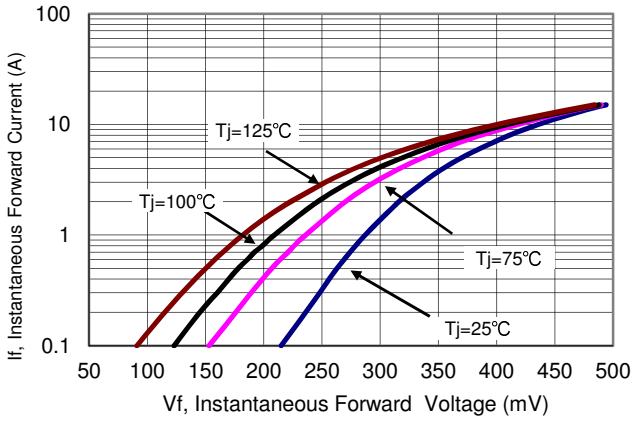


Figure 3: Typical Forward Voltage

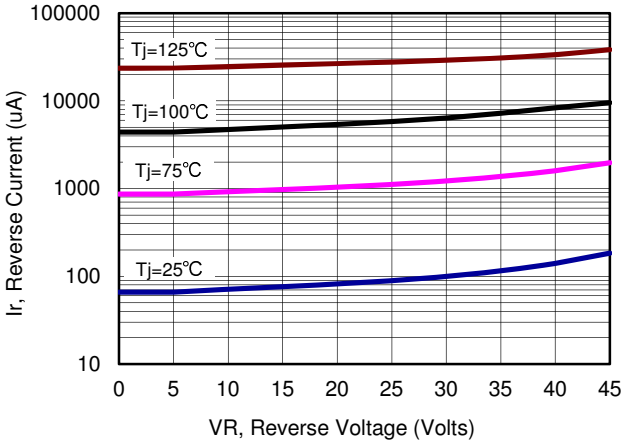


Figure 4: Typical Reverse Current

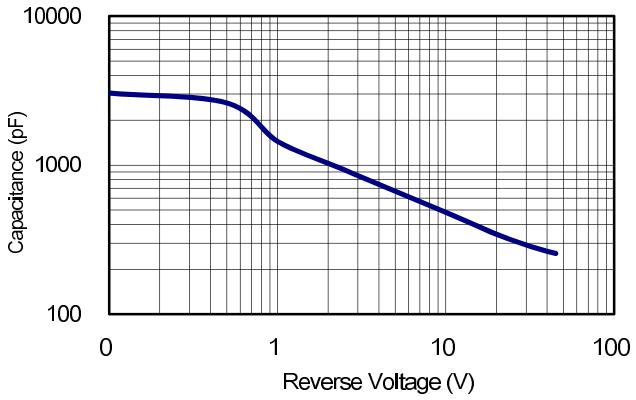
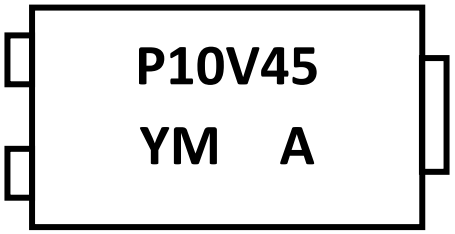


Figure 5: Typical Junction Capacitance

3. Marking information

Top Marking Rule

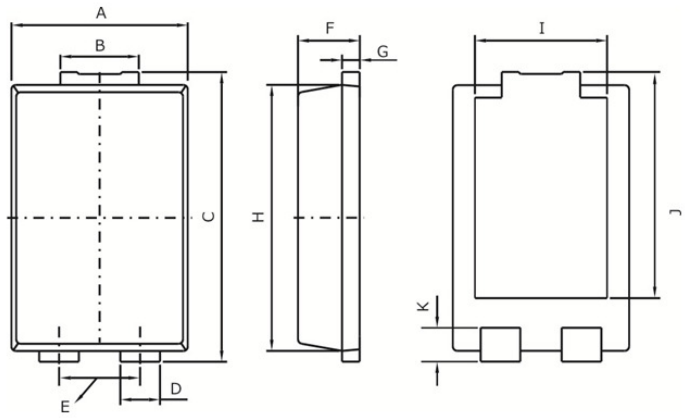


P10V45 = Product Type Marking Code
YM = Date Code
Y = Last one digits of year
M = Month code
A = Assembly Code

4. Package information

Suggested Package Outline Dimensions millimeters

TO-277



Dim.	Min.	Max.
A	3.90	4.10
B	1.74	1.94
C	6.40	6.60
D	0.80	1.05
E	1.84 typ.	
F	1.00	1.20
G	0.35	0.45
H	5.30	5.45
I	3.05 typ.	
J	4.40 typ.	
K	0.60	0.95
All Dimensions in millimeter		

Mounting pad Outline Dimensions millimeters

