



10A 45V Trench Schottky Diode

■ Applications

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

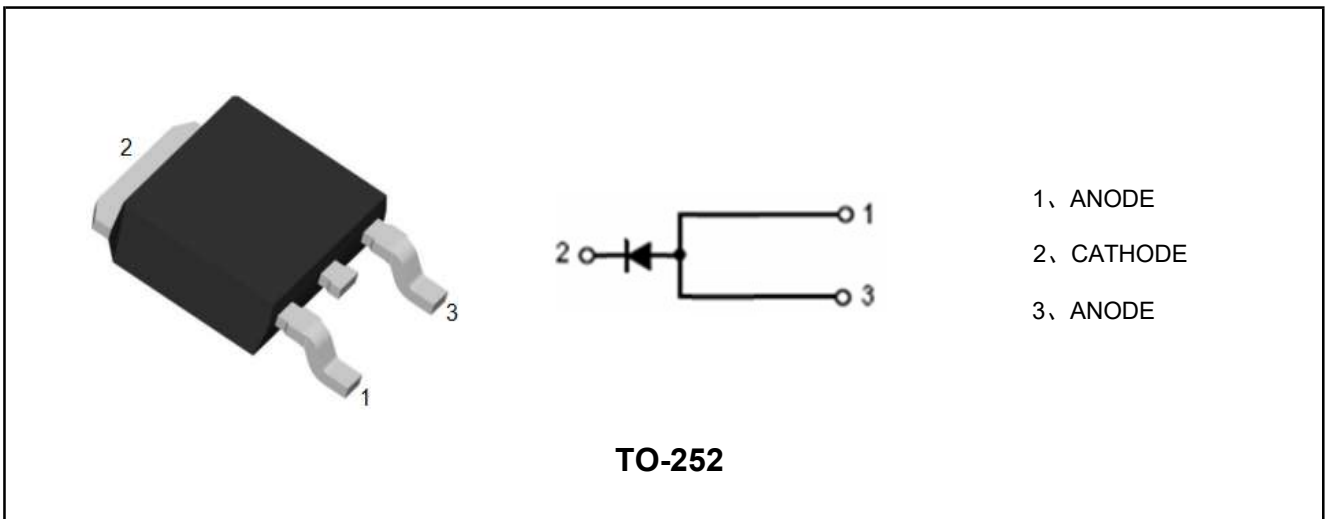
- AC-DC Adaptors
- DC-DC Converters

■ Features

- Schottky Barrier Chip
- Guard Ring Die Construction for Transient Protection
- Low Power Loss,High Efficiency
- High Surge Capability
- High Current Capability and Low Forward Voltage Drop
- Halogen Free and RoHS Compliant

■ Product Summary

$V_{RRM}$	45	V
$I_F@T_c=25^{\circ}C$	10	A
$V_{F,TYP}@5A,T_c=25^{\circ}C$	0.4	V
$V_{F,TYP}@5A,T_c=125^{\circ}C$	0.36	V
$I_{R,MAX}@T_c=25^{\circ}C$	0.3	mA



Marking	Package	Packaging	Min. package quantity
MK10T45CT	TO-252	Tape & Reel	3000





### ■ Absolute Maximum Ratings (Tc=25°C unless otherwise noted)

Parameter	Symbol	Ratings	Unit
Peak Repetitive Reverse Voltage	$V_{RRM}$	45	V
Surge Peak Reverse Voltage	$V_{RSM}$		V
DC Peak Blocking Voltage	$V_R$		V
Continuous Forward Current	$I_{F(per\ leg)}$	5	A
	$I_{F(total)}$	10	A
Non-Repetitive Peak Surge Current((Surge applied at rated load conditions halfwave,single phase,60HZ)	$I_{FSM}$	200	A
Junction Temperature	$T_j$	150	°C
Storage Temperature	$T_{stg}$	-55-150	°C

### ■ Thermal Characteristics

Parameter	Symbol	Package	Max	Unit
Maximum Junction-to-Case	$R_{\theta JC}$	TO-252	3	°C/W
Maximum Junction-to-Ambient	$R_{\theta JA}$	TO-252	60	°C/W

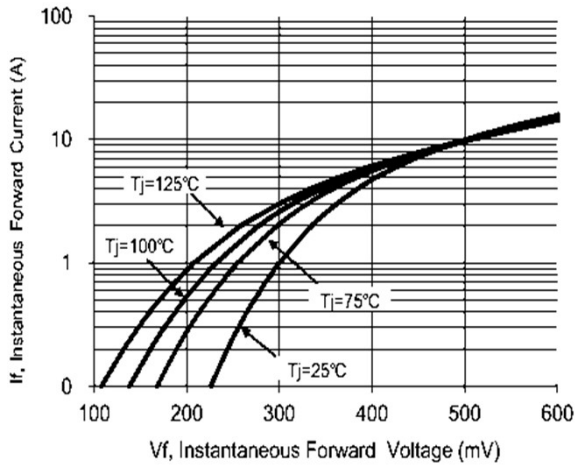
### ■ Electrical Characteristics (Per Leg) (Tc=25°C unless otherwise noted)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Forward Voltage	$V_F$	$I_F=5A, T_J=25^\circ C$	-	0.4		V
		$I_F=5A, T_J=125^\circ C$	-	0.36		V
Reverse Current	$I_R$	$V_R=45V, T_J=25^\circ C$	-	0.04	0.3	mA
		$V_R=45V, T_J=125^\circ C$	-	-	50	mA

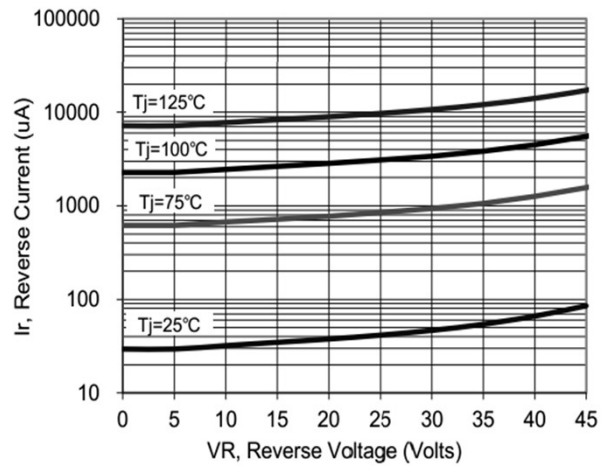




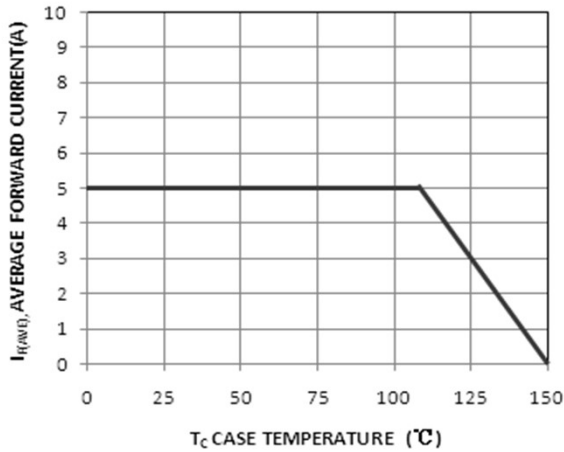
### ■ Characteristics Curves



Forward Characteristics Per Diode



Reverse Characteristics Per Diode

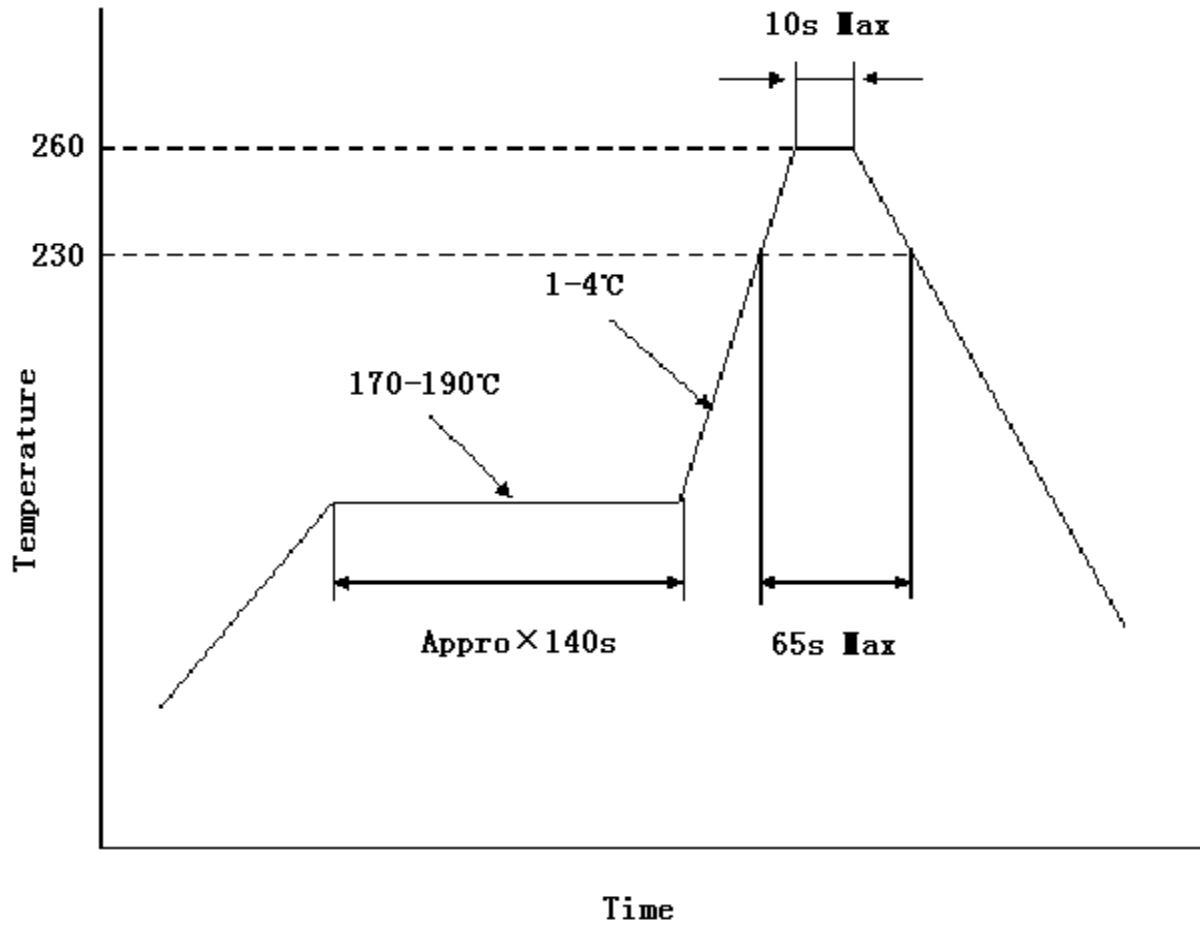


Current Derating Per Diode





■ Reflow Soldering Temperature Profile





■ TO-252 Package Dimensions

Unit: mm

Symbol	Min	Nom	Max	Symbol	Min	Nom	Max
A	2.10		2.50	E	5.80		6.30
B	0.80		1.25	e1	2.25	2.30	2.35
b	0.50		0.85	e2	4.45		4.75
b1	0.50		0.90	L1	9.50		10.20
b2	0.45		0.60	L2	0.90		1.45
C	0.45		0.60	L3	0.60		1.10
D	6.35		6.75	K	-0.1		0.10
D1	5.10		5.50				

