

10A 45V Trench Schottky Diode
■ Applications

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

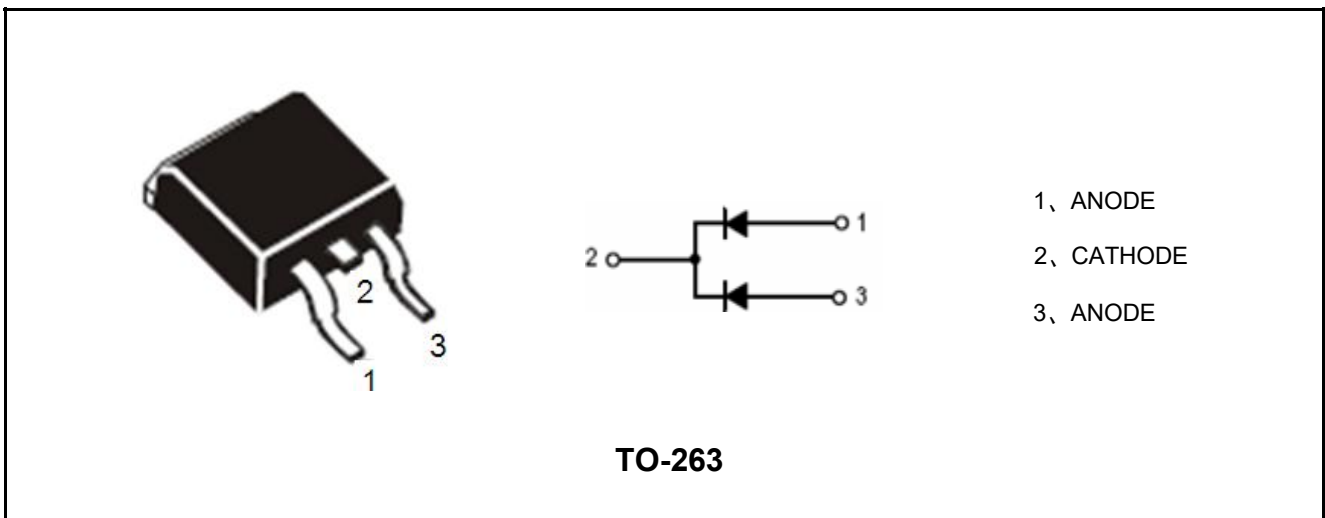
- AC-DC Adaptors
- DC-DC Converters

■ 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
$I_F@T_C=25^\circ\text{C}$	5 x 2	A
$V_{F, TYP}@5A, T_C=25^\circ\text{C}$	0.45	V
$V_{F, TYP}@5A, T_C=125^\circ\text{C}$	0.38	V
$I_{R, MAX}@T_C=25^\circ\text{C}$	0.3	mA



Marking	Package	Packaging	Min. package quantity
ML10T45CT	TO-263	Tube	1000
ML10T45CT	TO-263	Tape & Reel	800





■ 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

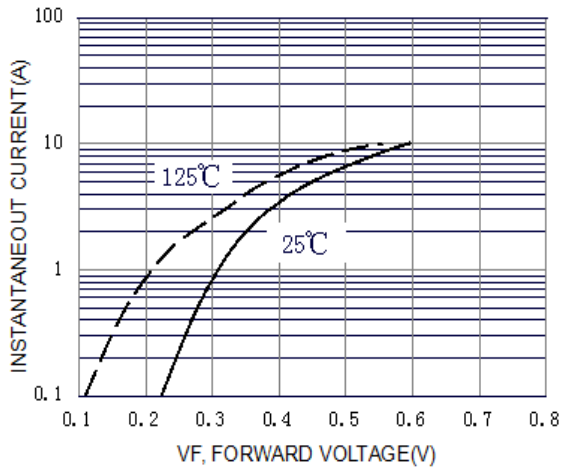
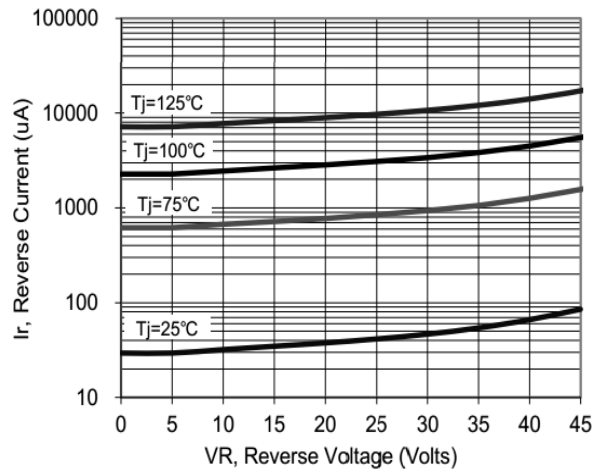
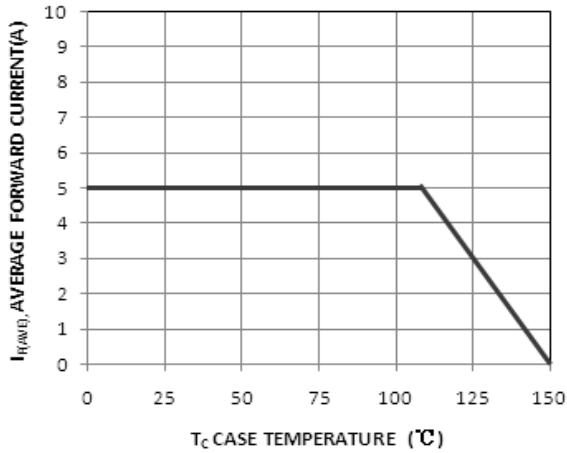
■ Thermal Characteristics

Parameter	Symbol	Package	Max	Unit
Maximum Junction-to-Case	$R_{\theta JC}$	TO-263	2	°C/W
Maximum Junction-to-Ambient	$R_{\theta JA}$	TO-263	60	°C/W

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

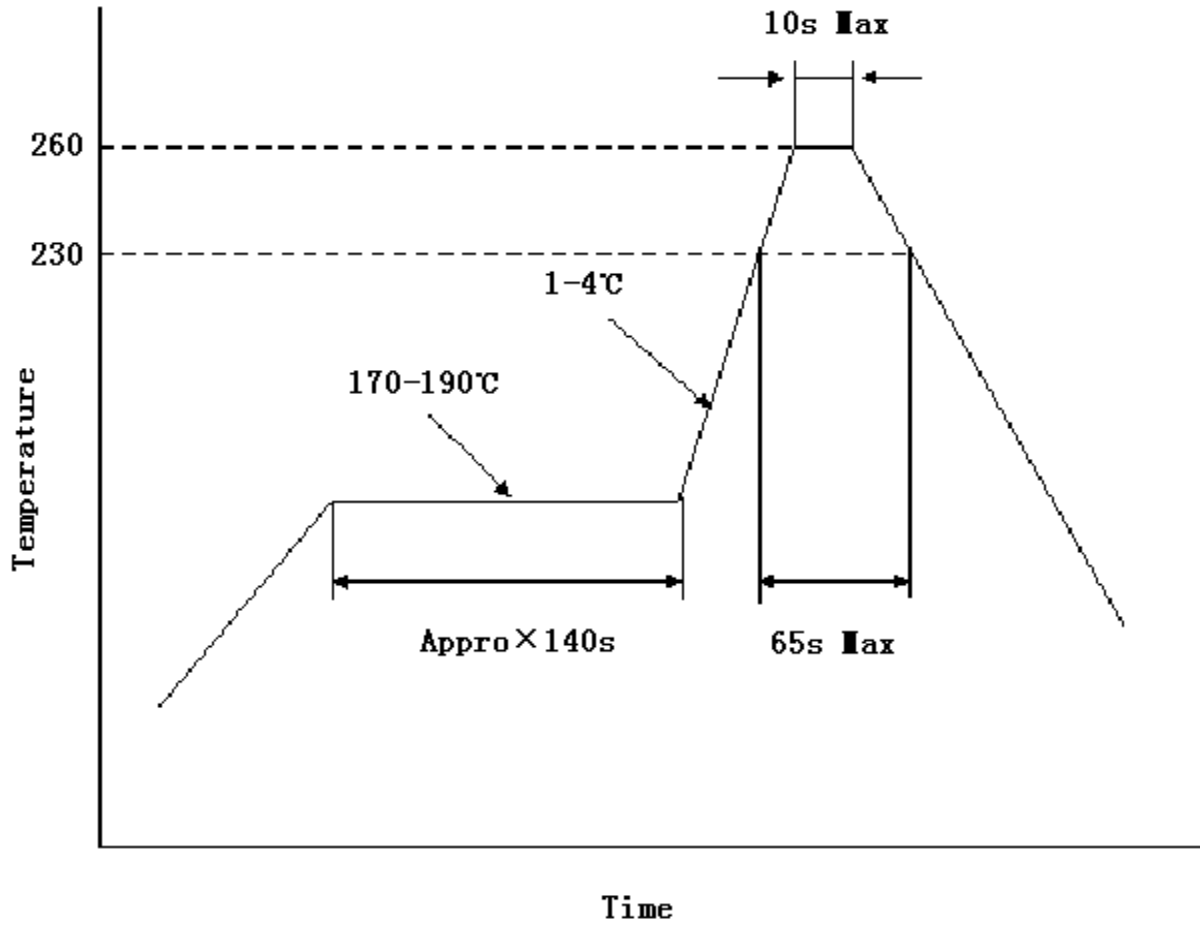
Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Forward Voltage	V_F	$I_F=3A, T_J=25^\circ C$	-	0.39		V
		$I_F=3A, T_J=125^\circ C$	-	0.32		V
		$I_F=5A, T_J=25^\circ C$	-	0.45		V
		$I_F=5A, T_J=125^\circ C$	-	0.38		V
Reverse Current	I_R	$V_R=45V, T_J=25^\circ C$	-	0.06	0.3	mA
		$V_R=45V, T_J=125^\circ C$	-	-	100	mA



■ Characteristics Curves

Forward Characteristics Per Diode

Reverse Characteristics Per Diode

Current Derating Per Diode




■ Reflow Soldering Temperature Profile





■ TO-263 Package Dimensions

Unit: mm

Symbol	Min	Nom	Max	Symbol	Min	Nom	Max
A	4.42		4.72	e1	2.44	2.54	2.64
B	1.22		1.4	e2	4.98		5.18
b	0.76		0.86	L1	14.7	15.1	15.5
b1	1.22		1.4	L2	2	2.3	2.6
b2	0.33		0.43	L3	1.5		2
C	1.22		1.35	K	-0.1		0.1
D	9.95		10.25	Y	8.51	8.61	8.71
E	8.99		9.29				

