

Technical Data
Data Sheet 2905, Rev. -

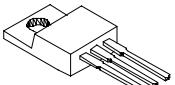
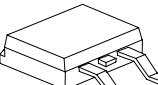
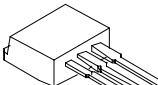
40L15CT/40L15CTS/40L15CT-1 SCHOTTKY RECTIFIER

Applications:

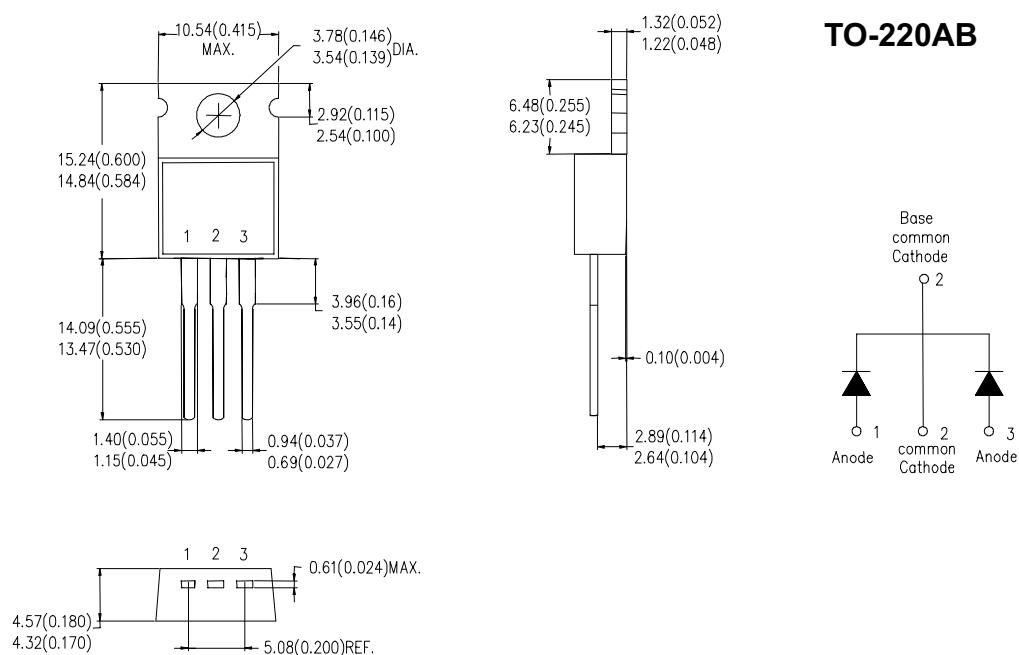
- Parallel switching power supply
- Converters
- Redundant power subsystems
- Reverse battery protection

Features:

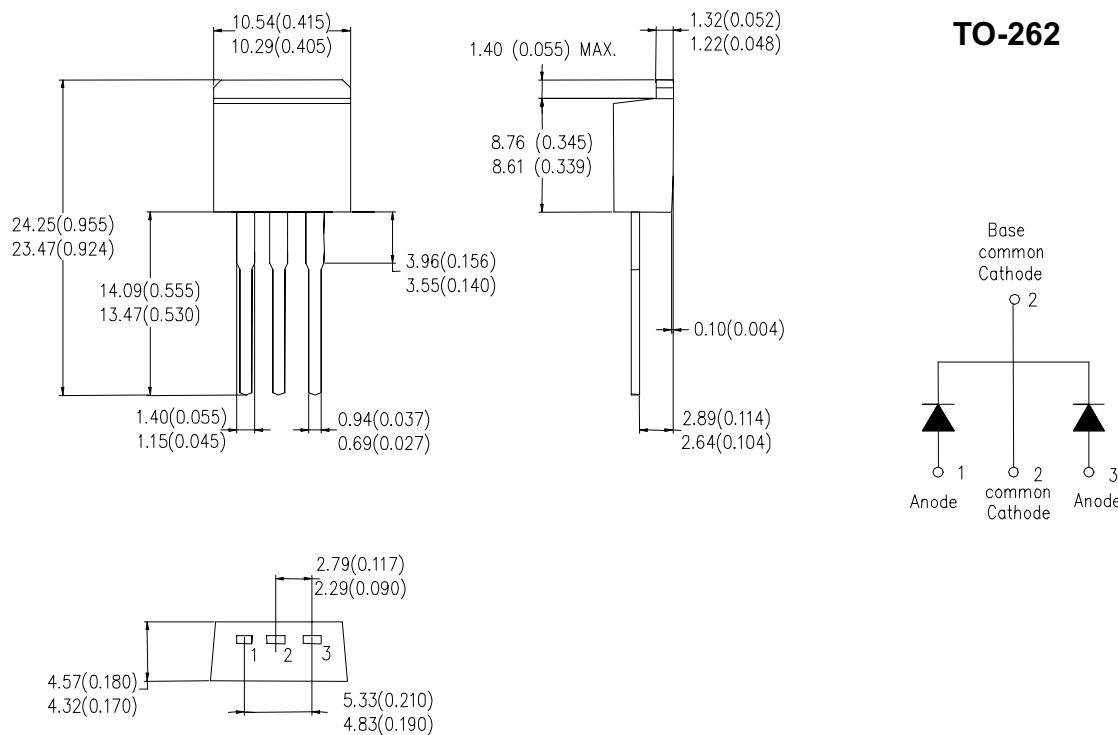
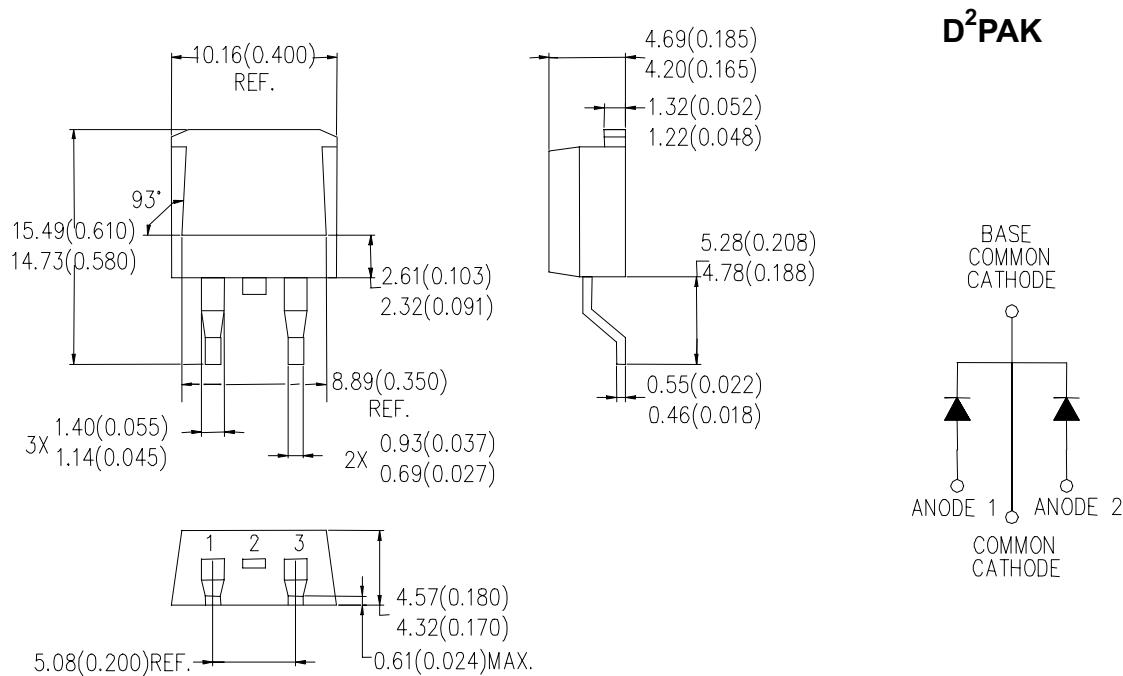
- 125 °C T_J operation
- Center tap configuration
- Optimized for OR-ing applications
- Ultra low forward voltage drop
- High purity, high temperature epoxy encapsulation for enhanced mechanical strength and moisture resistance
- High frequency operation
- Guard ring for enhanced ruggedness and long term reliability

Case styles		
40L15CT 	40L15CTS 	40L15CT-1 
TO-220AB	D²PAK	TO-262

Mechanical Dimensions: In Inches / mm



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Maximum Ratings:

Characteristics	Symbol	Condition	Max.	Units
Peak Inverse Voltage	V_{RWM}	$T_J = 25^\circ C$	15	V
Max. Average Forward Current	$I_{F(AV)}$	50% duty cycle @ $T_C = 85^\circ C$, rectangular wave form	20 (per leg)	A
			40 (per device)	
Max. Peak One Cycle Non-Repetitive Surge Current	I_{FSM}	8.3 ms, half Sine pulse	396	A
Non-Repetitive Avalanche Energy (per leg)	E_{AS}	$T_J = 25^\circ C$, $I_{AS} = 2 A$, $L = 6 mH$	10	mJ
Repetitive Avalanche Current (per leg)	I_{AR}	Current decaying linearly to zero in 1 μsec Frequency limited by T_J max. $V_A = 1.5 \times V_R$ typical	2	A

Electrical Characteristics:

Characteristics	Symbol	Condition	Max.	Typ.	Units
Max. Forward Voltage Drop (per leg) *	V_{F1}	@ 19 A, Pulse, $T_J = 25^\circ C$ @ 40 A, Pulse, $T_J = 25^\circ C$	0.41 0.52	- -	V
	V_{F2}	@ 19 A, Pulse, $T_J = 125^\circ C$ @ 40 A, Pulse, $T_J = 125^\circ C$	0.33 0.50	0.25 0.37	V
Max. Reverse Current (per leg) *	I_{R1}	@ V_R = rated V_R $T_J = 25^\circ C$	10	-	mA
	I_{R2}	@ V_R = rated V_R $T_J = 100^\circ C$	600	-	mA
Max. Junction Capacitance (per leg)	C_T	@ $V_R = 5 V$, $T_C = 25^\circ C$ $f_{SIG} = 1 MHz$	2000	-	pF
Typical Series Inductance (per leg)	L_S	Measured lead to lead 5 mm from package body	-	8.0	nH
Max. Voltage Rate of Change (Rated V_R)	dv/dt	-	10,000	-	V/ μs

* Pulse Width < 300 μs , Duty Cycle < 2%

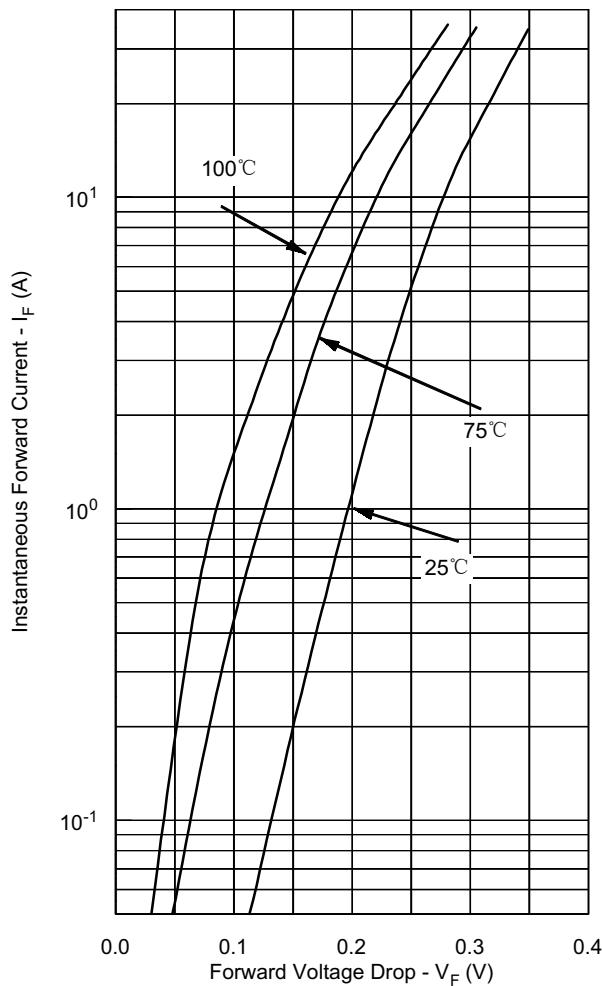
Thermal-Mechanical Specifications:

Characteristics	Symbol	Condition	Specification	Units
Max. Junction Temperature	T_J	-	-55 to +125	°C
Max. Storage Temperature	T_{stg}	-	-55 to +150	°C
Maximum Thermal Resistance Junction to Case (per leg)	$R_{\theta JC}$	DC operation	1.5	°C/W
Max. Thermal Resistance Junction to Ambient	$R_{\theta JA}$	DC operation For D ² PAK and TO-262	40	°C/W
Maximum Thermal Resistance, Case to Heat Sink	$R_{\theta CS}$	Mounting surface, smooth and greased Only for TO-220	0.50	°C/W
Approximate Weight	wt	-	2	g
Mounting Torque	T_M	-	6 (min) 12 (max)	Kg-cm
Case Style	TO-220AB D ² PAK TO-262 (Suffix "s" for D ² PAK; Suffix "-1" for TO-262)			

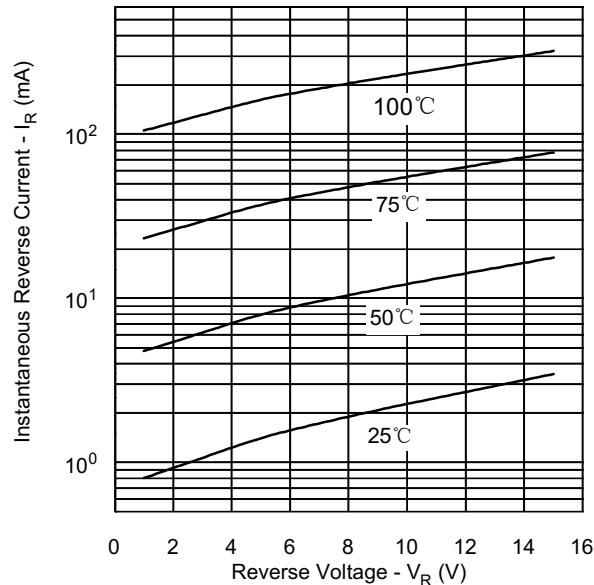
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Typical Forward Characteristics



Typical Reverse Characteristics



Typical Junction Capacitance

