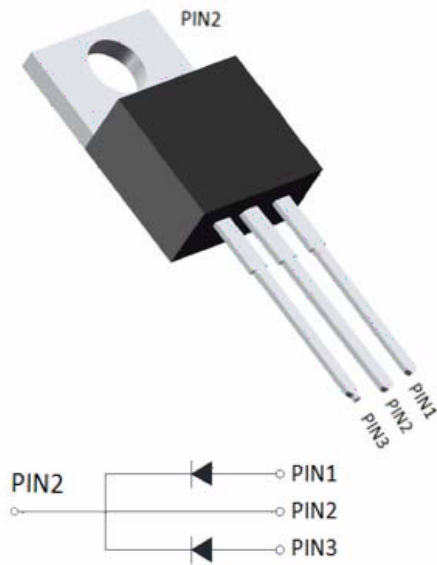


Ultra-Fast Recovery Diodes 20A FRED



Features

- Adopt FRED chip
- Low forward Voltage drop
- Fast reverse recovery time
- High frequency operation
- High purity, high temperature epoxy encapsulation for enhanced mechanical strength and moisture resistance
- Guard ring for enhanced ruggedness and long term reliability

Typical Applications

Typical applications are in switching power supplies, converters, freewheeling diodes, and reverse battery protection.

Mechanical Data

- **Package:** TO-220AB
Molding compound meets UL 94 V-0 flammability rating, RoHS-compliant
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Polarity:** As marked

■Maximum Ratings (Tj=25 Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	MURS2030CTS
Device marking code			MURS2030CTS
Repetitive Peak Reverse Voltage	V_{RRM}	V	300
Average Rectified Output Current @60Hz sine wave, R-load, Tc(FIG.1)	I_O	A	20
Surge(Non-repetitive)Forward Current @60Hz half sine-wave, 1 cycle, Ta=25	I_{FSM}	A	150
Current Squared Time @1ms≤t≤8.3ms Tj=25	I^2t	A ² s	93.37
Storage Temperature	T_{stg}		-55 ~ +175
Junction Temperature	T_J		-55 ~ +175
Typical Junction capacitance @4V,1MHz	C_j	pF	93



MURS2030CTS

■Electrical Characteristics

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	Min	Typ	Max
Instantaneous forward voltage drop per diode	V_{FM}	V	$I_{FM}=10.0A$ @ $T_j=25$	-	1.20	1.40
			$I_{FM}=10.0A$ @ $T_j=125$		0.95	1.20
DC reverse current at rated DC blocking voltage per diode	I_{RRM1}	μA	$V_{RM}=V_{RRM}$ $T_j=25$	-	-	20
	I_{RRM2}		$V_{RM}=V_{RRM}$ $T_j=125$	-	-	300
Reverse Recovery Time	T_{RR}	ns	$I_F=0.5A$ $I_{RM}=1A$ $I_{RR}=0.25A$ $T_j=25$	-	17	25
			$T_j=25$	-	37	-
			$T_j=125$	-	46	-
Peak recovery current	I_{RRM}	A	$T_j=25$	-	2.25	-
			$T_j=125$	-	5.54	-
Reverse recovery charge	Q_{rr}	nC	$T_j=25$	-	41	-
			$T_j=125$	-	128	-

■Thermal Characteristics $T_j=25$ Unless otherwise specified

PARAMETER		SYMBOL	UNIT	MURS2030CTS
Thermal Resistance	Between junction and case	$R_{\theta J-C}$	/W	2.5
	Between junction and Air	$R_{\theta J-A}$	/W	50

■Ordering Information (Example)

PREFERRED P/N	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)
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■ Characteristics (Typical)

FIG1: I_o : I

Average Forward Output Current (A)

Case Temperature

FIG2: Surge Forward Current Capability

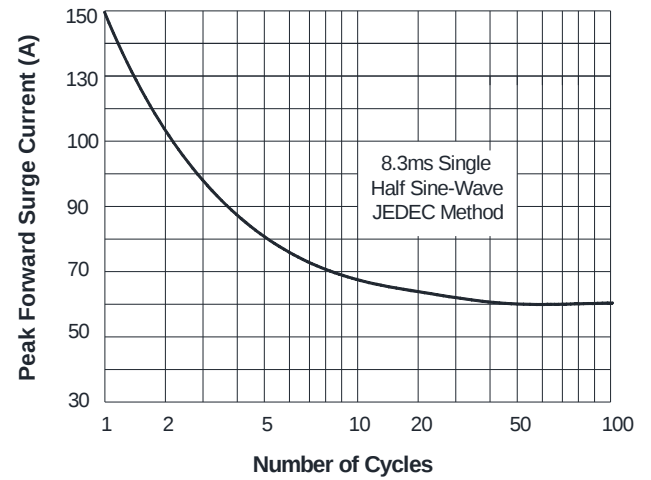
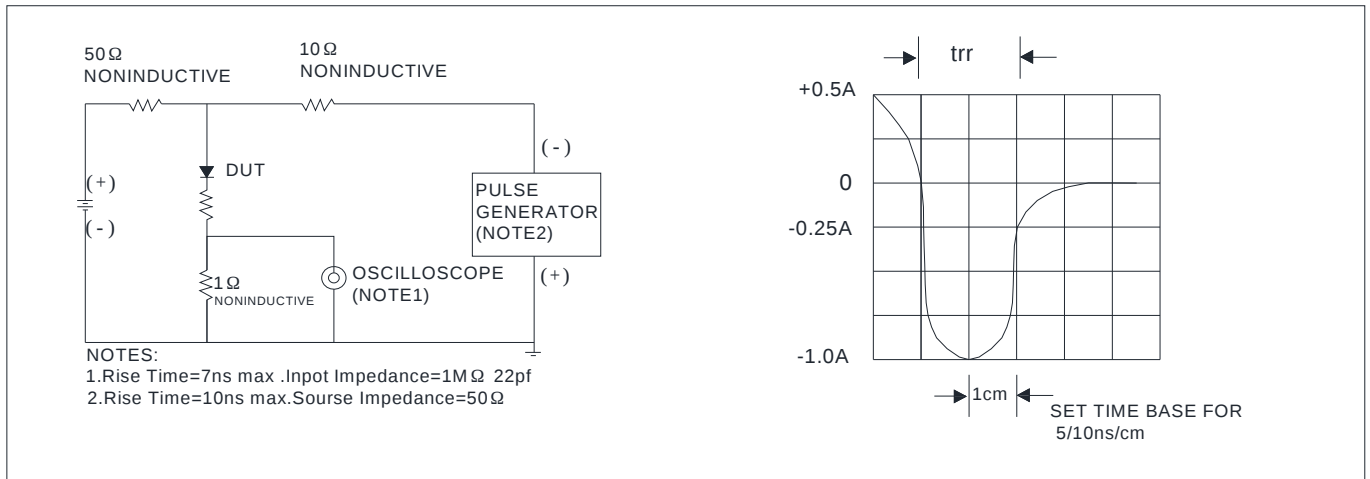
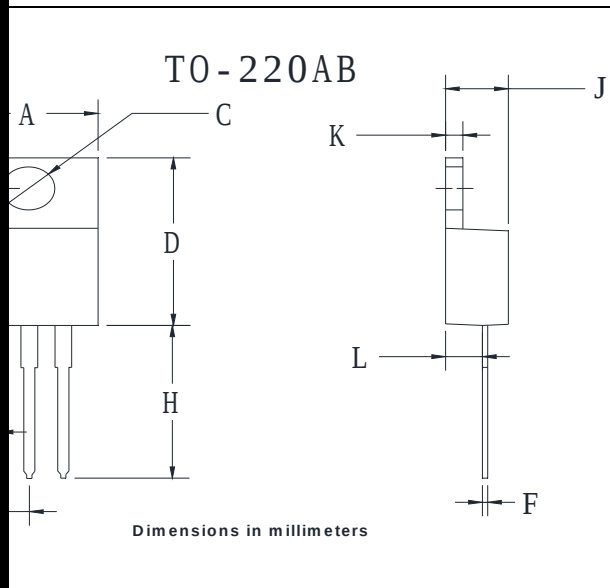


FIG.5: Diagram of circuit and Testing wave form of reverse recovery time



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TO-220



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