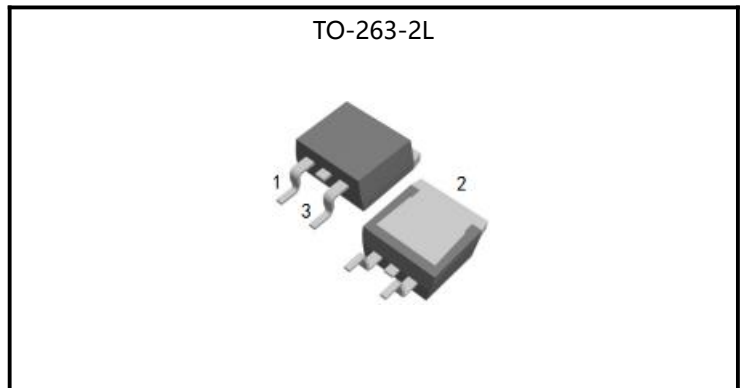


## Ultrafast Recovery Diode

### 10A,400V

#### FEATURE

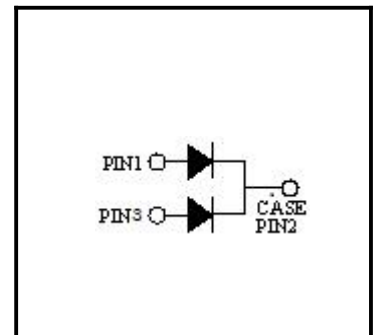
- ◆ Ultrafast,soft recovery
- ◆ High frequency operation
- ◆ Very low IR value
- ◆ Low forward voltage drop
- ◆ High junction temperature
- ◆ Epitaxial chip construction
- ◆ Low power loss, high efficiency
- ◆ RoHS 2.0 Compliant



#### MECHANICAL DATA

- ◆ Case: Molded with UL-94 Class V-0 recognized Flame Retardant Epoxy
- ◆ Mounting position: any

Parameter	Values	Unit
$I_{F(AV)}$	10	A
$V_{RRM}$	400	V
$T_J$	150	°C
$V_F(max)$	1.3	V
$T_{RR}(max)$	35	ns



Ordering Code	Marking	Package	Packaging
MUR1040BCT	MUR1040BCT	TO-263-2L	Tape and reel

## Absolute Maximum Ratings( $T_C=25^{\circ}\text{C}$ , unless otherwise noted)

Parameter	Symbol	Values			Unit	Note/Test Conditions
		Min	Typ	Max		
Maximum Repetitive Peak Reverse Voltage	$V_{RRM}$	-	-	400	V	-
Maximum RMS Voltage	$V_{RMS}$	-	-	280	V	-
Maximum DC blocking Voltage	$V_{DC}$	-	-	400	V	-
Maximum Average Forward Rectified Current	$I_{F(AV)}$	-	-	5 10	A	Per Leg Total device, $T_C=100^{\circ}\text{C}$
Non-Repetitive Forward Surge Current	Per Leg $I_{FSM}$	-	-	125	A	$T_C=25^{\circ}\text{C}$ , $t_p=8.3\text{ms}$ , Half Sine Wave
Typical Junction Capacitance	$C_J$	-	23	-	pF	Measured at 1.0 MHz and applied reverse voltage of 4.0Vdc
Operating Junction and Storage Temperature Range	$T_J, T_{STG}$	-55	-	150	$^{\circ}\text{C}$	-

## Thermal Characteristics

Parameter	Symbol	Values			Unit	Note/Test Conditions
		Min	Typ	Max		
Thermal resistance , Channel to Case	$R_{th(ch-c)}$	-	-	2.5	$^{\circ}\text{C}/\text{W}$	-

## Electrical Characteristics-(per leg)( $T_C=25^{\circ}\text{C}$ , unless otherwise noted)

Parameter	Symbol	Values			Unit	Note/Test Conditions
		Min	Typ	Max		
Reverse Breakdown Voltage	$V_{RRM}$	400	-	-	V	$I_R=100\mu\text{A}$
Forward Voltage Drop	$V_F$	-	1.19	1.3	V	$I_F=5\text{A}, T_J=25^{\circ}\text{C}$
		-	1.09	1.3		$I_F=5\text{A}, T_J=125^{\circ}\text{C}$
Reverse Leakage Current	$I_R$	-	0.03	10	$\mu\text{A}$	$V_R=400\text{V}, T_J=25^{\circ}\text{C}$
		-	0.2	200		$V_R=400\text{V}, T_J=125^{\circ}\text{C}$
Reverse Recovery Time	$t_{rr}$	-	-	35	ns	$I_F=0.5\text{A}, I_R=1\text{A}, I_{RR}=0.25\text{A}, T_J=25^{\circ}\text{C}$



## RATING AND CHARACTERISTIC CURVES

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

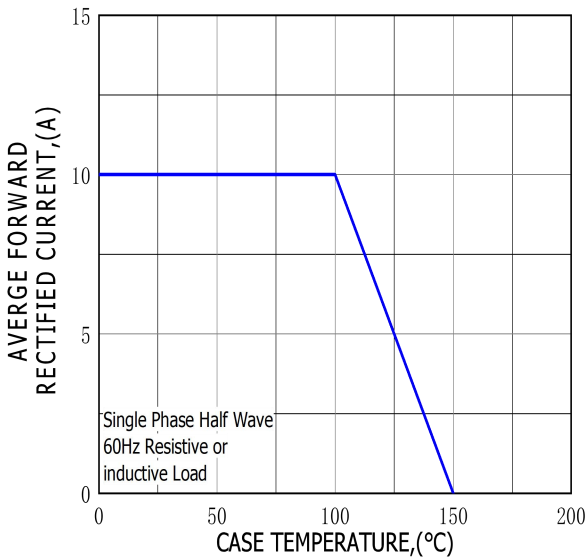


FIG.2-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

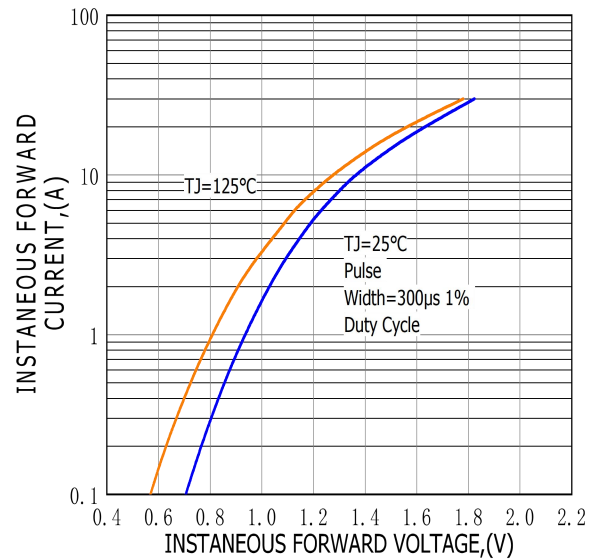


FIG.3-MAXIMUN NON-REPETITIVE FORWARD SURGE CURRENT

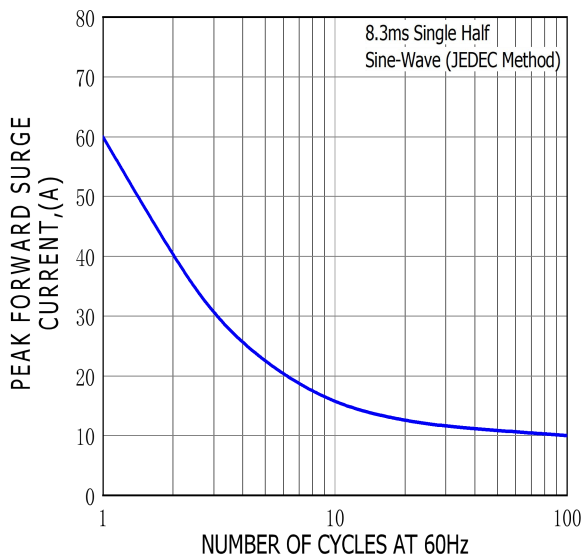
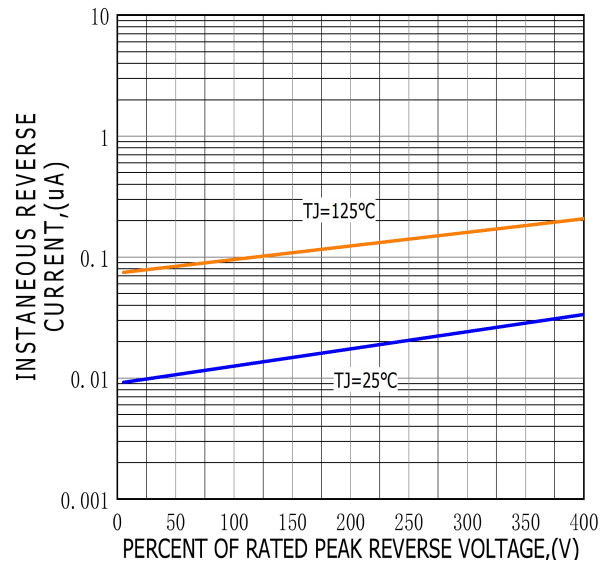
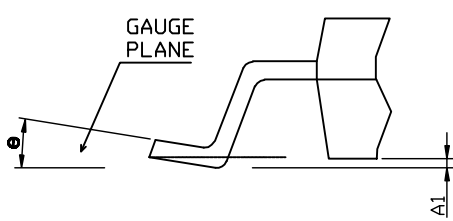
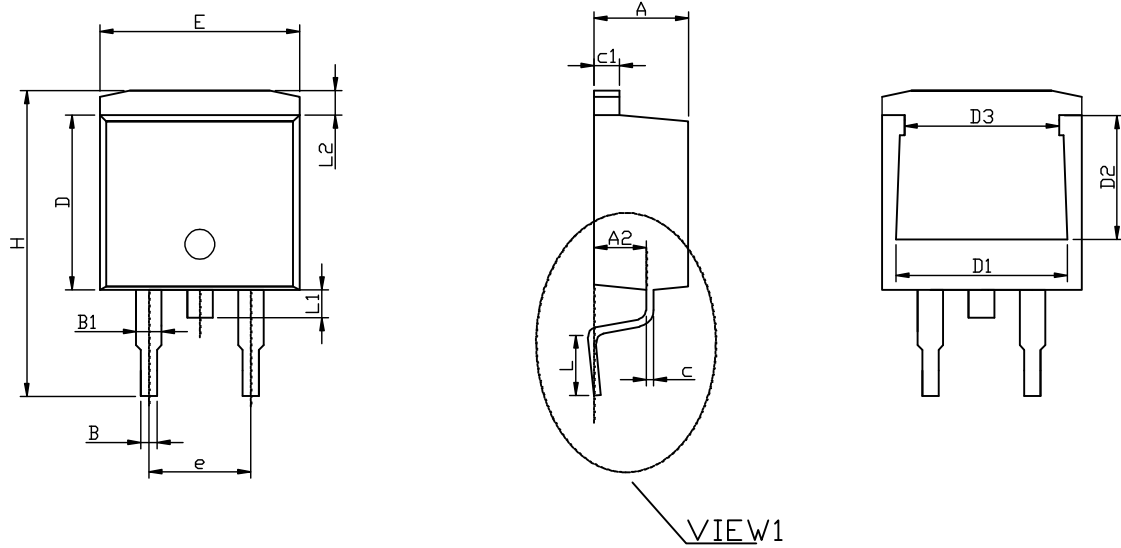


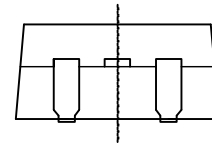
FIG.4-TYPICAL REVERSE CHARACTERISTICS



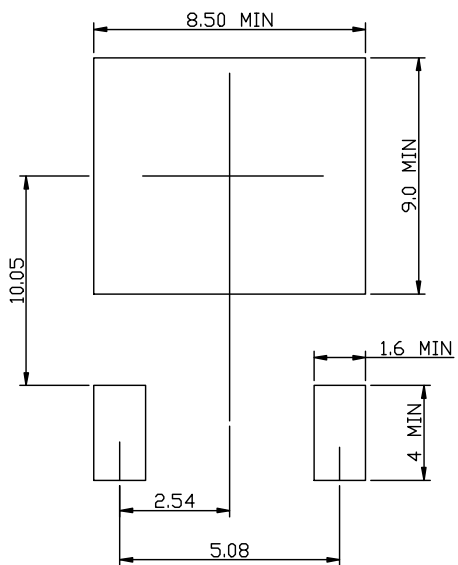
# TO-263-2L PACKAGE OUTLINE



VIEW1



## RECOMMENDED LAND PATTERN



	MIN	NOM	MAX
A	4.50	4.70	4.90
A1	0.05	0.15	0.30
A2	2.45	2.60	2.70
B	0.72	0.82	0.92
B1	1.12	1.27	1.42
c	0.28	0.38	0.48
c1	1.17	1.27	1.37
D	8.46	8.66	8.86
D1	7.90	8.10	8.40
D2	5.50	5.70	5.90
D3	7.10	7.30	7.50
E	9.85	10.15	10.45
e		5.08BCS	
H	14.75	15.15	15.55
L	2.30	2.55	2.80
L1	1.20	1.40	1.60
L2	1.01	1.23	1.50
θ	0°	7°	8°

UNIT: mm

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