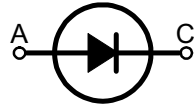
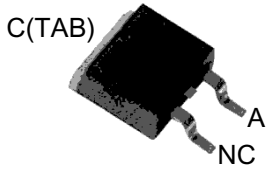
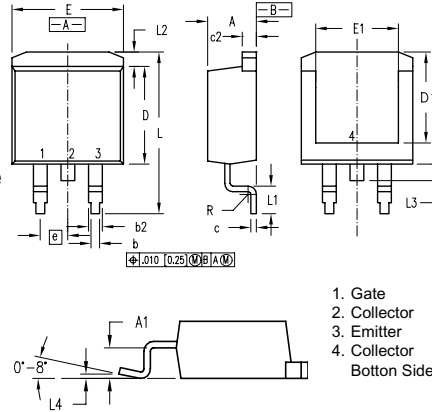


SUR2960S

Ultra Fast Recovery Epitaxial Diodes



Dimensions TO-263(D²PAK)



Dim.	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	4.06	4.83	.160	.190
A1	2.03	2.79	.080	.110
b	0.51	0.99	.020	.039
b2	1.14	1.40	.045	.055
c	0.46	0.74	.018	.029
c2	1.14	1.40	.045	.055
D	8.64	9.65	.340	.380
D1	8.00	8.89	.315	.350
E	9.65	10.29	.380	.405
E1	6.22	8.13	.245	.320
e	2.54 BSC		.100 BSC	
L	14.61	15.88	.575	.625
L1	2.29	2.79	.090	.110
L2	1.02	1.40	.040	.055
L3	1.27	1.78	.050	.070
L4	0	0.20	0	.008
R	0.46	0.74	.018	.029

A=Anode, NC= No connection, TAB=Cathode

1. Gate
2. Collector
3. Emitter
4. Collector Bottom Side

	V_{RSM}	V_{RRM}
	V	V
SUR2960S	600	600

Symbol	Test Conditions	Maximum Ratings	Unit
I_{FRMS}	$T_{VJ}=T_{VJM}$	70	A
I_{FAVM}	$T_C=85^\circ\text{C}$; rectangular, $d=0.5$	29	
I_{FRM}	$t_p < 10\mu\text{s}$; rep. rating, pulse width limited by T_{VJM}	375	
I_{FSM}	$T_{VJ}=45^\circ\text{C}$	$t=10\text{ms}$ (50Hz), sine $t=8.3\text{ms}$ (60Hz), sine	A
	$T_{VJ}=150^\circ\text{C}$	$t=10\text{ms}$ (50Hz), sine $t=8.3\text{ms}$ (60Hz), sine	
I^2t	$T_{VJ}=45^\circ\text{C}$	$t=10\text{ms}$ (50Hz), sine $t=8.3\text{ms}$ (60Hz), sine	A^2s
	$T_{VJ}=150^\circ\text{C}$	$t=10\text{ms}$ (50Hz), sine $t=8.3\text{ms}$ (60Hz), sine	
T_{VJ}		-40...+150	$^\circ\text{C}$
T_{VJM}		150	
T_{stg}		-40...+150	
P_{tot}	$T_C=25^\circ\text{C}$	125	W
M_d	Mounting torque	0.4...0.6	Nm
Weight		2	g

SUR2960S

Ultra Fast Recovery Epitaxial Diodes

Symbol	Test Conditions	Characteristic Values		Unit
		typ.	max.	
I_R	$T_{VJ}=25^{\circ}\text{C}; V_R=V_{RRM}$		100	uA
	$T_{VJ}=25^{\circ}\text{C}; V_R=0.8 \cdot V_{RRM}$		50	uA
	$T_{VJ}=125^{\circ}\text{C}; V_R=0.8 \cdot V_{RRM}$		7	mA
V_F	$I_F=29\text{A}; T_{VJ}=150^{\circ}\text{C}$		1.4	V
	$T_{VJ}=25^{\circ}\text{C}$		1.6	
V_{TO}	For power-loss calculations only		1.01	V
r_T	$T_{VJ}=T_{VJM}$		7.1	m Ω
R_{thJC}			1.0	K/W
t_{rr}	$I_F=1\text{A}; -di/dt=100\text{A/us}; V_R=30\text{V}; T_{VJ}=25^{\circ}\text{C}$	35	50	ns
I_{RM}	$V_R=350\text{V}; I_F=30\text{A}; -di_F/dt=240\text{A/us}; L \leq 0.05\mu\text{H}; T_{VJ}=100^{\circ}\text{C}$	10	11	A

FEATURES

- * International standard package
- * Glass passivated chips
- * Very short recovery time
- * Extremely low losses at high switching frequencies
- * Low I_{RM}-values
- * Soft recovery behaviour

APPLICATIONS

- * Antiparallel diode for high frequency switching devices
- * Anti saturation diode
- * Snubber diode
- * Free wheeling diode in converters and motor control circuits
- * Rectifiers in switch mode power supplies (SMPS)
- * Inductive heating and melting
- * Uninterruptible power supplies (UPS)
- * Ultrasonic cleaners and welders

ADVANTAGES

- * High reliability circuit operation
- * Low voltage peaks for reduced protection circuits
- * Low noise switching
- * Low losses
- * Operating at lower temperature or space saving by reduced cooling