ASD265D

650V,2A Silicon Carbide Schottky Diode

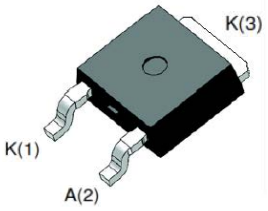
Features

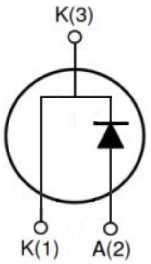
- Ease of Paralleling
- Zero reverse recovery current
- Zero forward recovery voltage
- Temperature independent switching behaviour
- High temperature operation
- High frequency operation

Key Characteristics		
V_{RRM}	650	V
I_F, $T_c \leqslant 160℃$	2	A
Q_C	8	nC

Benefits

- Unipolar rectifier
- Substantially reduced switching losses
- No thermal run-away with parallel devices
- Reduced heat sink requirements





Halogen-Free (F, Cl, Br, I)

RoHS

Applications

- Switch Mode Power Supplies (SMPS)
- Boost diodes in PFC or DC/DC stages
- Motor drives
- Solar application,UPS
- Power Switching Circuits

Part No.	Package Type	Marking
ASD265D	TO-252-2	ASD265D

Maximum Ratings

Parameter	Symbol	Test Condition	Value	Unit
Repetitive Peak Reverse Voltage	V_{RRM}		650	V
Surge Peak Reverse Voltage	V_{RSM}		650	V
DC Blocking Voltage	V_{DC}		650	V
Continuous Forward Current	I_F	T_C=25℃ T_C=100℃ T_C=160℃	9 6 2	A
Repetitive Peak Forward Surge Current	I_{FRM}	T_C=25℃, tp=10ms， Half Sine Wave，D=0.3	15	A
Non-repetitive Peak Forward Surge Current	I_{FSM}	T_C=25℃, tp=10ms， Half Sine Wave	30	A
Power Dissipation	P_{TOT}	T_C=25℃	42	W
		T_C=110℃	18	W
Operating Junction	T_j		-55℃ to 175℃	℃
Storage Temperature	T_{stg}		-55℃ to 175℃	℃
Mounting Torque		M3 Screw 6-32 Screw	1 8.8	Nm lbf-in

Thermal Characteristics

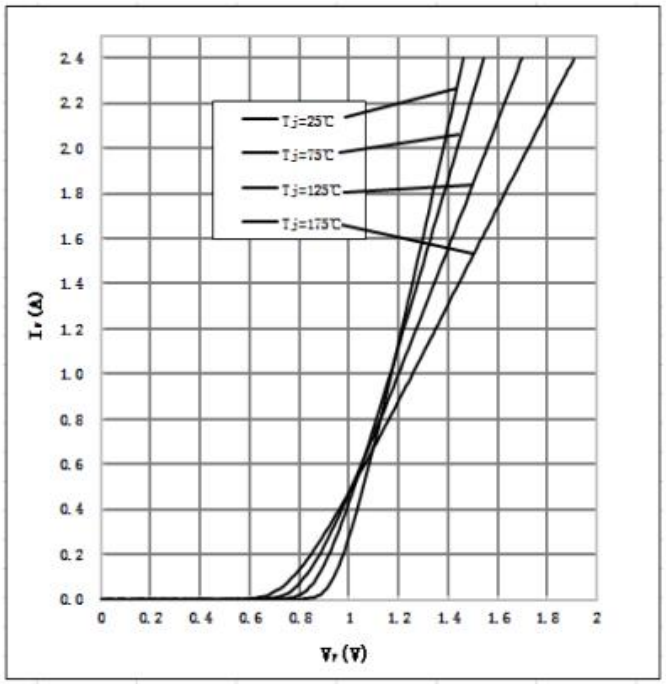
Parameter	Symbol	Test Condition	Value	Unit
			Typ.	
Thermal resistance from junction to case	$R_{th\ JC}$		3.57	℃/W

Electrical Characteristics

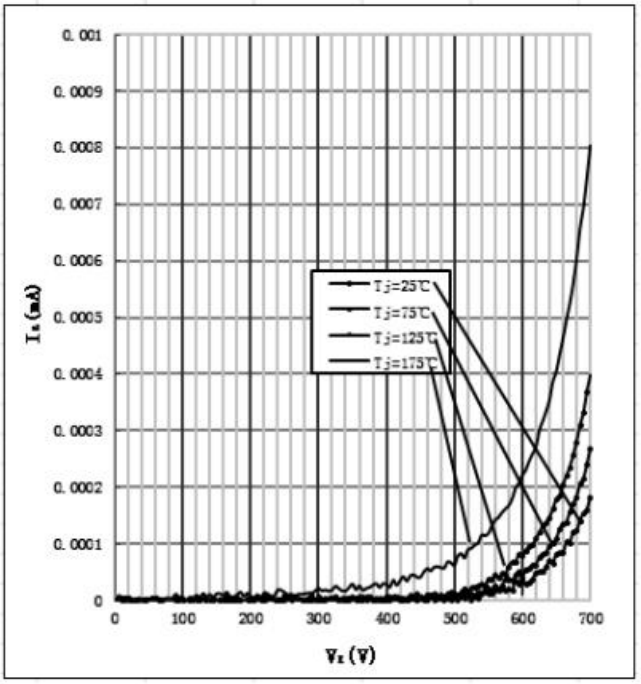
Parameter	Symbol	Test Conditions	Numerical		Unit
			Typ.	Max.	
Forward Voltage	V_F	I_F=2A, T_j=25℃	1.38	1.7	V
		I_F=2A, T_j=175℃	1.72	2.5	
Reverse Current	I_R	V_R=650V, T_j=25℃	10	50	μA
		V_R=650V, T_j=175℃	20	100	
Total Capacitive Charge	Q_C	V_R=400V, T_j=150℃ $Qc = \int_0^{VR} C(V)dV$	8	-	nC
Total Capacitance	C	V_R=0V, T_j=25℃, f=1MHZ	123	150	pF
		V_R=200V, T_j=25℃, f=1MHZ	12	20	
		V_R=400V, T_j=25℃, f=1MHZ	13	30	

Performance Graphs

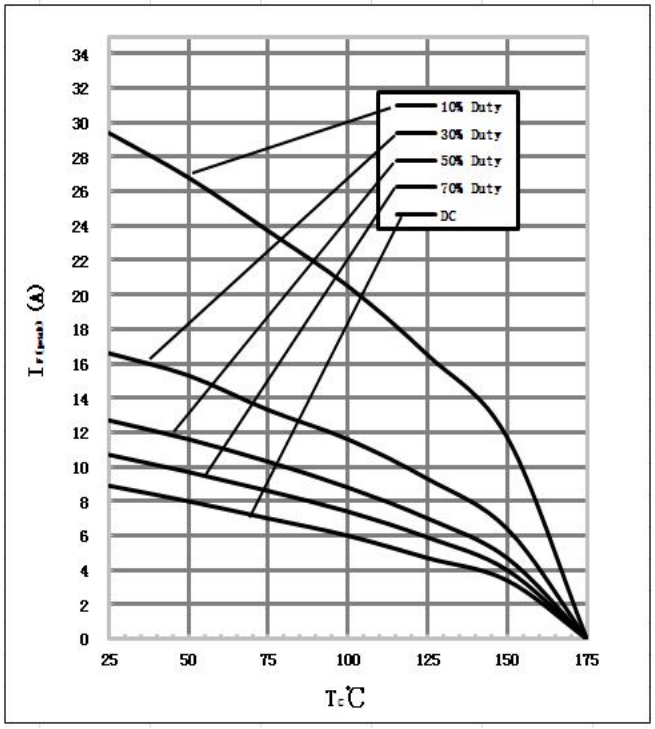
1) Forward IV characteristics as a function of Tj :



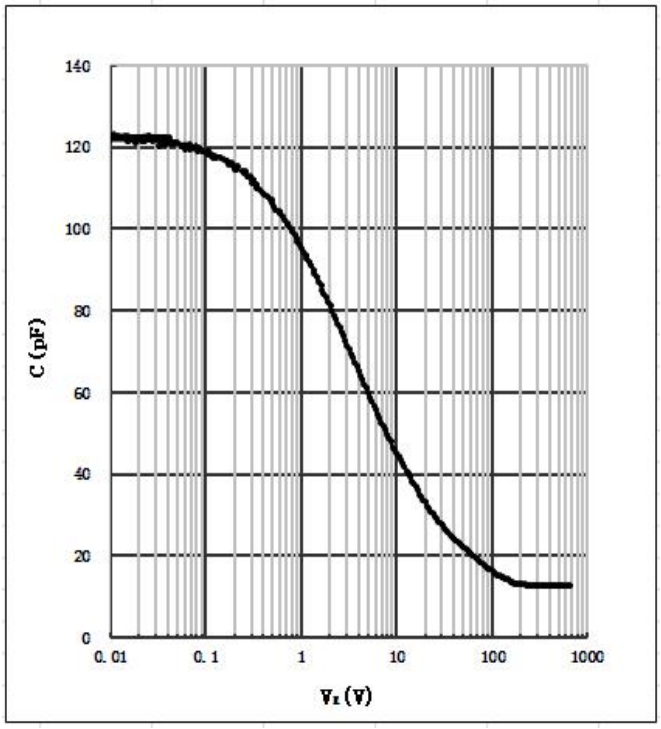
2) Reverse IV characteristics as a function of Tj :



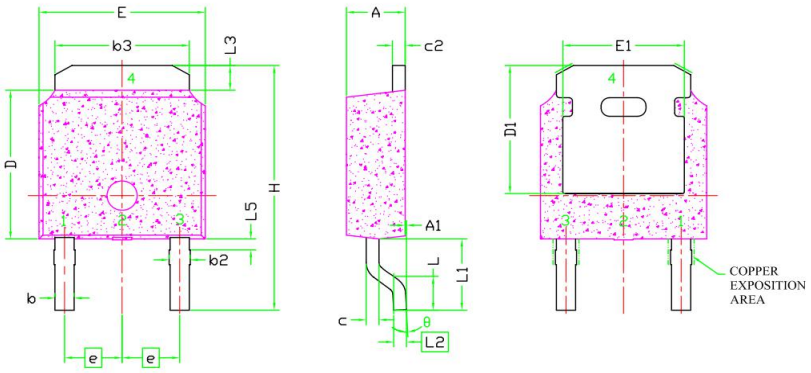
3)Current Derating



4)Capacitance vs. reverse voltage :



Package TO-252-2



SYMBOL	DIMENSIONAL REQMTS		
	MIN	NOM	MAX
E	6.40	6.60	6.731
L	1.40	1.52	1.77
L1	2.743 REF		
L2	0.508 BSC		
L3	0.89	--	1.27
L5	--	--	--
D	6.00	6.10	6.223
H	9.40	10.00	10.40
b	0.64	0.76	0.88
b2	0.77	0.84	1.14
b3	5.21	5.34	5.46
e	2.286 BSC		
A	2.20	2.30	2.38
A1	0	--	0.127
c	0.46	0.50	0.60
c2	0.46	0.50	0.58
D1	5.21	--	--
E1	4.40	--	--
θ	0°	--	10°

DISCLAIMER

ALL PRODUCT, PRODUCT SPECIFICATIONS AND DATA ARE SUBJECT TO CHANGE WITHOUT NOTICE TO IMPROVE RELIABITILY, FUNCTION OR DESIGN OR OTHERWISE.