

ESTF75D60U/UA/FB

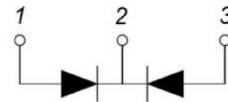
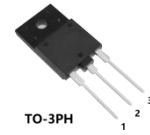
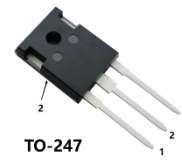
Ultra-Fast Recovery Diode

Features

- Repetitive Reverse Voltage : $V_{RRM} = 600V$
- Forward Voltage Drop : $V_{F(typ.)} = 1.4V$
- Average Forward Current : $I_{F(AV.)} = 75A @ T_c = 100^{\circ}C$
- Fast Reverse Recovery Time : $t_{rr(typ.)} = 35ns$
- RoHS product

Applications

- Switching Power Supplies
- Power Switching Circuits
- Welding Machine
- UPS



Absolute Maximum Ratings ($T_c=25^{\circ}C$, unless otherwise specified)

Symbol	Parameter	ratings	Unit
V_{RRM}	Repetitive peak reverse voltage @50 μA	600	V
V_{RWM}	Working Peak Reverse Voltage	600	V
$I_{F(AV)}$	Average forward current per Diode	75	A
	Average forward current per Diode @ $T_c=100^{\circ}C$	37.5	
	Average forward current per Device	150	
	Average forward current per device @ $T_c=100^{\circ}C$	75	
I_{FSM}	Peak one Cycle Surge Forward per device @ $t=10ms$	650	A
P_D	Power Dissipation per device	185	W
T_J	Junction Temperature	-50~+150	$^{\circ}C$
T_{STG}	Storage temperature range	-50~+150	$^{\circ}C$

Electrical Specifications ($T_c=25^{\circ}C$, unless otherwise specified)

Symbol	Parameter		Ratings			Unit
			Min.	Typ	Max.	
I_R	$T_J = 25^{\circ}C$, per Diode	$V_R = V_{RRM}$			10	μA
	$T_J = 125^{\circ}C$, per Diode				1000	μA

V _F	T _J =25℃,per Diode	I _F =40A		1.4	1.55	V
	T _J =125℃,per Diode			1.0	1.26	V
t _{rr}	I _F =1A, V _R =300V, di _F /dt=-200A/μs,			20	25	ns
t _{rr}	I _F =37.5A, V _R =300V, di _F /dt=-200A/μs,			35	45	ns
I _{rr}				4.0		A
Q _{rr}				100		nC

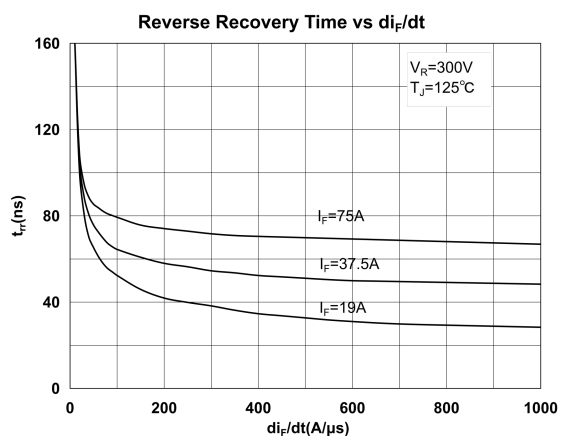
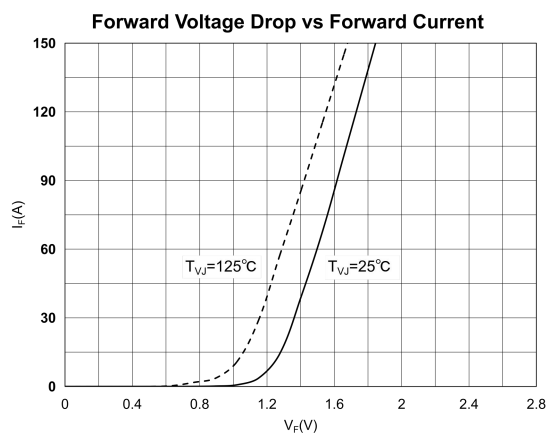
thermal characteristics

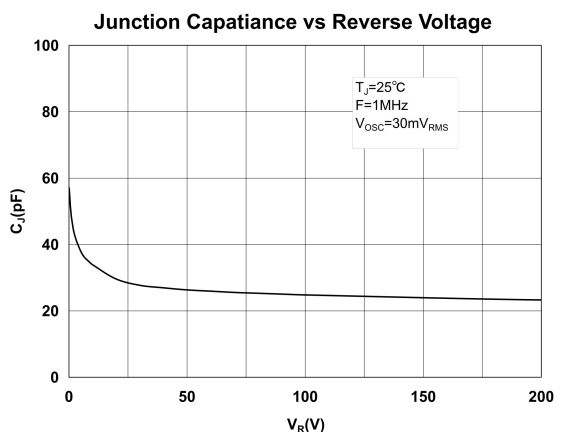
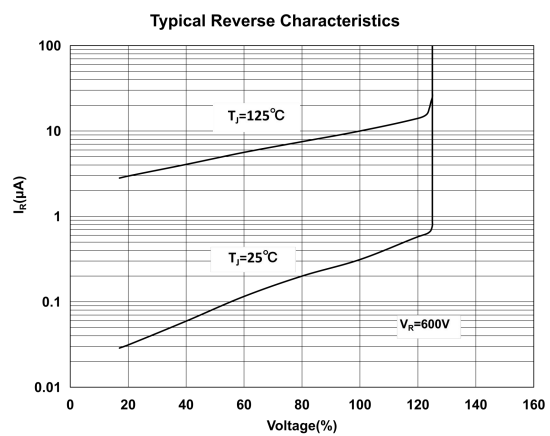
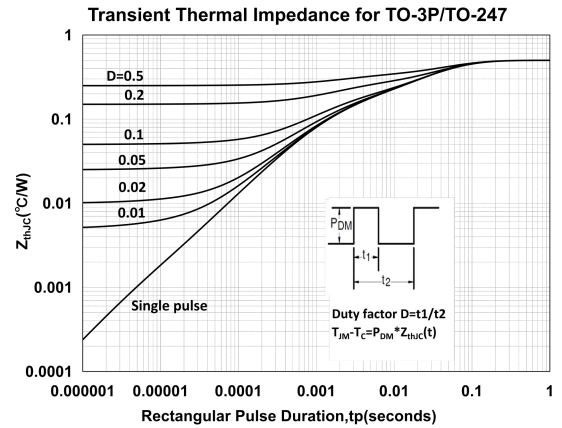
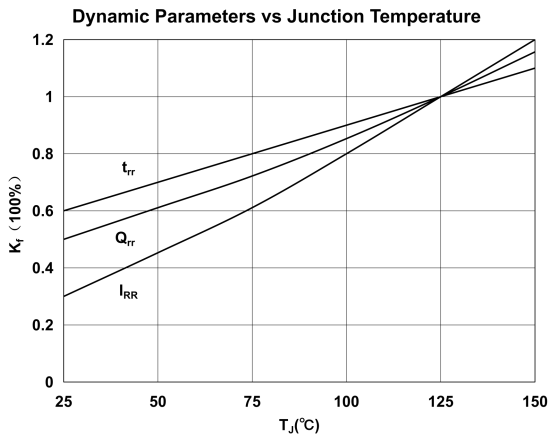
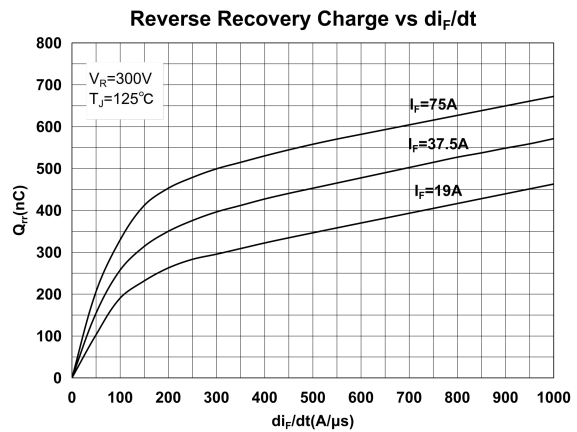
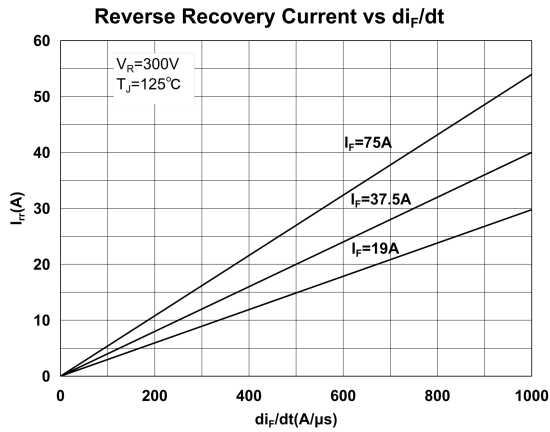
Symbol	Parameter		Ratings			Unit
			Min.	Typ.	Max.	
$R_{th(j-c)}$	Thermal resistance	TO-247/3PB/3PN			0.5	$^{\circ}\text{C}/\text{W}$
$R_{th(j-c)}$	from junction to case	TO-3PH			1.3	$^{\circ}\text{C}/\text{W}$

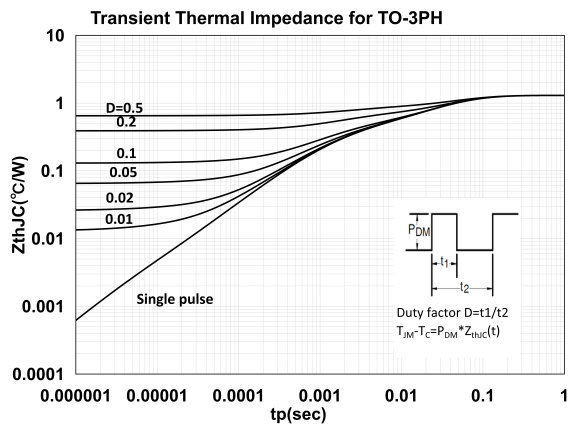
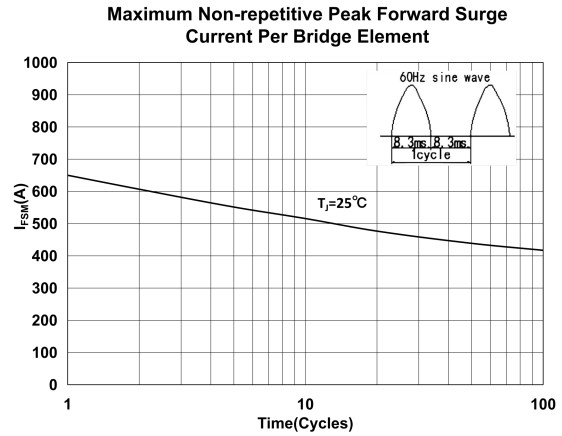
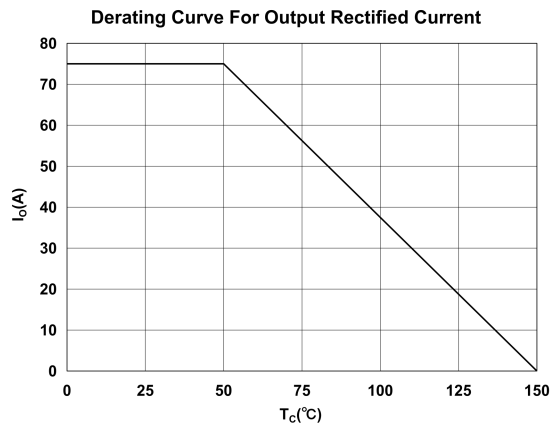
Ordering Information

Order codes	Silkscreen	Package
ESTF75D60U	ESTF75D60U	TO-247
ESTF75D60UA	ESTF75D60UA	TO-3PH
ESTF75D60FB	ESTF75D60FB	TO-3P (TO-3PN, TO-3PB)

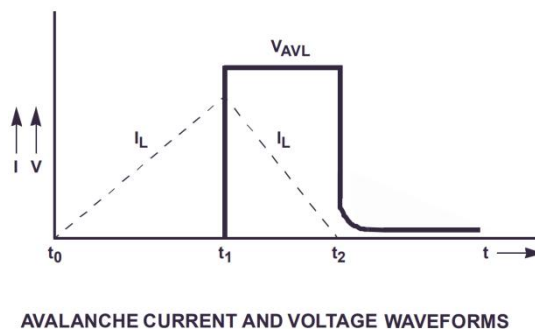
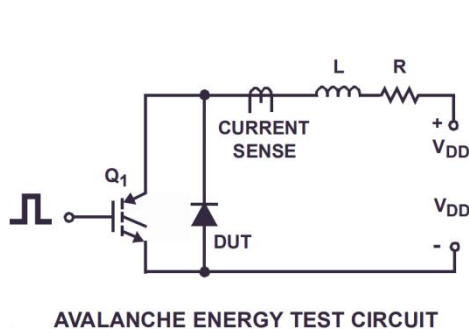
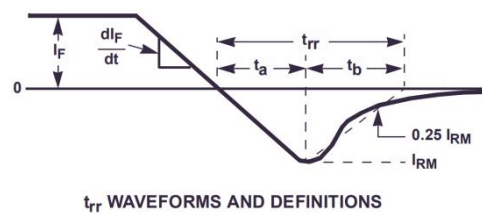
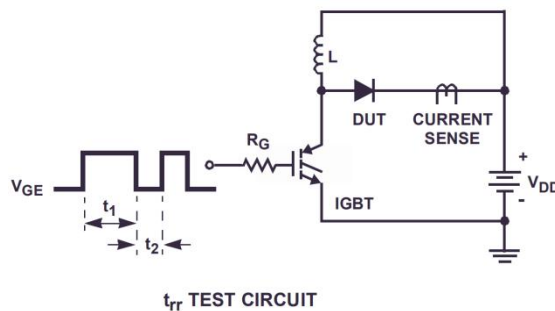
Typical Performance Curves(Per Diode)



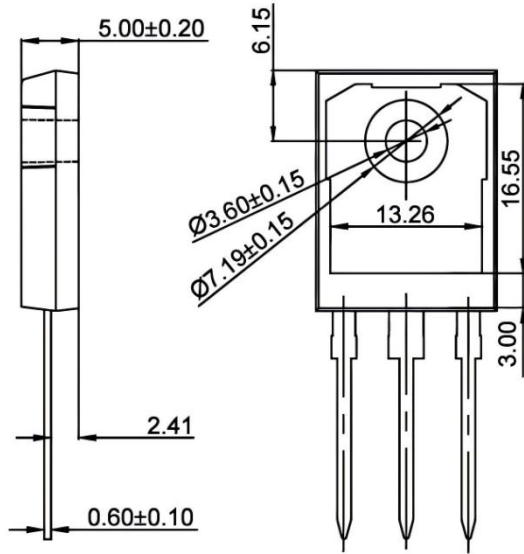
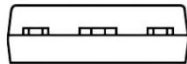
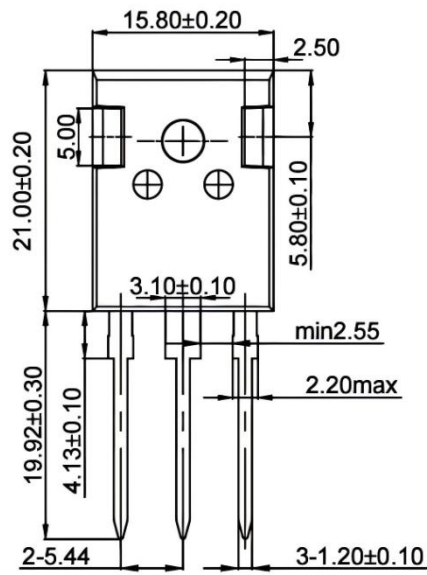




Test Circuits and Waveforms



Package



NOTES: 1. surface roughness $R_a = 1.14 \pm 0.20 \mu\text{m}$
 2. Unmarked tolerance ± 0.15
 3. unit: mm

TO-247

